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ABSTRACT

In examining the literature on materials relating to the evolution-creationism controversy, it was found that there have been no comprehensive bibliographies compiled since the early 1980s. This paper presents an annotated bibliography on the creationism-evolution controversy including materials published or made available since 1980. (ASK)

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Annotated Bibliography of Materials Relating to the Evolution-Creationism Controversy

by
Buzz Haughton

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ANNOTATED BIBLIOGRAPHY OF MATERIALS RELATING TO THE EVOLUTION-CREATIONISM CONTROVERSY

by Buzz Haughton

One of the most frequently recurring controversies in the fields of science and education over the past one hundred and fifty years has been the tug of war between those who in general accept the principles of evolution and natural selection laid down by naturalist Charles Darwin in his seminal work *The Origin of Species* and those who insist on the more or less literal truth of the creation account as given in the first couple of chapters of Genesis in the Judeo-Christian Bible. While the scientific establishment comes down squarely on the side of evolution, there has always been a minority of scientists adhering to the creationist interpretation. The creationist viewpoint is held by varying percentages of the general, nonscientifically trained public in industrialized countries, but it is probably safe to state that in no other First World country than the United States is so large a segment of the public opposed to the principles of evolution.

The controversy has intensified since the mid-1970s with the advent of scientific creationism, an adaptation of creationism that claims to base its claims not on scripture but rather deficiencies in the ability of the theory of evolution to explain various phenomena found in biology and geology. The creationist movement has managed to install itself in public education in several states as a valid competitor to the evolutionary viewpoint through law. Such legal victories on the part of creationists have provoked vigorous opposition from evolutionists, but the outcome has been somewhat checkered; while the Supreme Court has ruled against placing creationism on a par with evolution in two of its decisions, appellate courts have sometimes decided differently, and local custom and practice in many locales favor creationism in defiance of past Supreme Court rulings. The controversy shows no signs of abating and will likely continue into the twenty-first century.

I was struck in examining the literature on this dispute to discover that there have been no comprehensive bibliographies on it compiled since the early 1980s, thereby for the most part not picking up on the burgeoning of the creation science movement. I have therefore undertaken to compile as complete bibliography as I could on the creationism-evolution debate using well-known bibliographic databases. I arbitrarily imposed the limitation that only material published or made available since 1980 should be included in order to make the bibliography of workable size. I have also excluded foreign-language material and have largely confined the geographic scope to the United States, with a few citations relating to the same controversy as it is being played out in Australia and Canada. Although it will be obvious to the user that the bulk of the materials included espouses the evolutionist viewpoint, I have made every effort to include materials on both sides of this controversy. Many creationist writings are not indexed in the standard bibliographic sources available to me. About fifty percent of the citations included in this bibliography are annotated, including most of the citations for journal literature. Citations for editorials and book reviews in periodicals, as well as mongraphic books, are in general not annotated. Because of the sometimes ephemeral nature of sites on the World Wide Web, these sources have been

excluded, but a Web search using a good search engine should disclose a fair amount of materials for the interested reader.

I hope that this bibliography will prove of use to anyone interested in scanning the recent literature on the creationism-evolution controversy. I am solely responsible for any omissions or inaccuracies to be found herein. I would appreciate hearing from users about mistakes. Please send me your comments and corrections preferably by e-mail to bxhaughton@ucdavis.edu or by mail to:

Buzz Haughton
Shields Library
University of California
100 N West Quad
Davis, CA 95616-5292

(1982). "Reading list of books and articles on Darwinism and creationism." Science, Technology, & Human Values 7(40):103-104.

An alphabetical list of 44 references (books and articles) on various aspects of creationism, the creationism-evolution controversy, and Darwinism is presented.

(1982). "Creationism in the schools: the Arkansas decision." American Biology Teacher 44(3):172-179.

Presented in its entirety is Judge Overton's decision in favor of the plaintiffs (including the National Association of Biology Teachers) who sued the Arkansas Board of Education, et al., on the grounds that the Balanced Treatment for Creation-Science and Evolution-Science Act was unconstitutional.

(1982). "Creationism in schools: the decision in McLean versus the Arkansas Board of Education." Science 215(4535):934-943.

Presented is the complete text of the judgment, injunction, and opinion of U.S. District Court Judge William R. Overton who enjoined the Arkansas Board of Education from implementing the Balanced Treatment for Creation-Science and Evolution-Science Act passed by the state legislature.

(1989). "Creationists win battle, war for science rages on." Earth Science 42(4):6.

(1989). "Textbook terrorism." Economist 312(7616):17-19.

Creationists are trying to halt teaching of evolution (American survey; includes related article on creationists' beliefs).

(1990). "*Evolution and the myth of creationism: a basic guide to the facts in the evolution debate* by Tim Berra." Social Biology 37(3-4):272.

Book review.

(1991). "Christian Reformed Church: synod approves creation/evolution report." Christianity Today 35(10):68-70.

Christian Reformed Church teaching remains opposed to evolution-based theologies of creation. A recent synod was sharply divided over this and other questions of Biblical inerrancy.

(1991). "Science's litmus test." Harper's Magazine 282(1690):28-32.

Excerpt from telephone call from Jonathan Piel, editor of *Scientific American*, to Forrest M. Mims III, science writer and creationist.

(1992). "The Jehovah's Witnesses and the Watchtower Society." Free Inquiry 12(2):28-32.

The Jehovah's Witnesses' Watchtower Bible and Tract Society has often been accused of misrepresenting the ideas of authorities quoted in its textbook *Life: how did it get here? By evolution or by creation?* An example of this misrepresentation was quoting zoologist Richard Lewontin to have said that the orderly structure of organisms proves the existence of a Creator. Lewontin denied ever making such a categorical statement about creationism in the book writer's source. Other examples of erroneous attributions made by the publication's reporters are presented.

(1993). "Vista school board takes up 'creation science' issue again." Church & State 46(5):19-21.

The school board in Vista, California, is considering the use of a creation science textbook as a supplementary source in science classes. The book, *Of pandas and people*, advocates the "theory of intelligent design." An official of the National Center for Science Education maintains the book is dishonest and unscientific. Control of the school board by Religious Right activists has caused controversy over creationism and school prayer although a survey of high school students found that most oppose religion in Vista schools. Cases involving religion in other public school districts are discussed.

(1993). "Education clash." Education Week 12(36):4.

A suburban San Diego school board is weighing a policy on science teaching that many fear would allow the teaching of religious tenets to counter scientific theories.

(1994). "Creationism's design flaws." Wilson Quarterly 18(3):142.

Creationists today tout "intelligent design theory" as an alternative to evolution. They contend that living organisms have features that are so perfect that they cannot be the result of the random workings of evolution but must be the product of conscious design. However, says Miller, a biologist at Brown University, scientists argue "that complex organisms not only could have evolved through evolution's trial-and-error mechanisms, but

must have done so." And it is the errors that constitute the best evidence. Evolutionary theory can account for the "errors" and imperfections that are found in living organisms, whereas "intelligent design" theory cannot.

(1994). "The Clarence of creationism." World (Asheville, N.C.) 9(20):22.

An article on Phillip Johnson, a leading creation scientist teaching at the University of California, Berkeley.

(1995). "Monkeying with humankind." Lancet 346(8991-8992):1641.

Editorial.

(1995). "Creationism in public schools: what you can do." Church & State 48(4):11.

School boards under the control of the Religious Right are in danger of getting creationism as a controversial issue as the religious allies try to incorporate it into the school curriculum. According to a 1987 Supreme Court judgment, creationism is not science and it is necessary to be careful of the members of the Religious Right using another name for it. The involvement of clergy and scientists also helps in the opposition to the teaching of creationism.

(1995). "Science and the citizen." Scientific American 273(1):12.

An article outlining the advance of acceptance of creationist ideas as an appropriate competitor with evolutionary theory in American public school biology and other science courses.

(1995). "Creationism: Alabama cracks open the door." Science 268(5207):33.

(1996). "Counter-attack." Economist 340(7979):26-28.

1996 saw creationist legislation introduced (none of it passed) in five states. Religious conservatives are mounting a concerted attack on the presentation of evolution as scientific fact in secondary school textbooks.

(1996). "NABT unveils new statement on teaching evolution." American Biology Teacher 58(1):61-63.

The National Association of Biology Teachers believes that biology is founded on evolution, a scientific concept with tangible evidence, and so cannot be separated

from it. Creationism is part of a system of beliefs that have no scientific grounding and is untestable dogmatism which should never be approached in a scientific classroom. However, teaching evolution should not interfere with either the teachers' or students' beliefs which should be respected. The conflict between evolution and creationism in the classroom is founded on a misunderstanding of science and is legally unconstitutional.

(1997). "Shadows." American Biology Teacher 59(9):548.

Creationists are attacking the theory of evolution and influencing its elimination in science textbooks. State boards of education in Illinois, Texas and New Mexico are reconsidering the validity of the theory of evolution and how it is taught in state schools. Arizona is developing state guidelines that will eliminate all references to evolution or phrases such as common ancestry or descent with modification.

(1997). "Editorial perspectives: 'twixt creationism and reductionism." Science & Society 61(4):442-448.

Editorial.

(1998). "Creationism: young-earth advocates go on offensive." Christianity Today 42(5):24.

(1999). "*Tower of Babel: the evidence against the new creationism*." Publishers Weekly 246(7):96.

Book review.

Alfonseca, M. (1996). "The evolution of creationism." The Sciences 36(5):47.

Letter to the editor.

Alston, Jon P. (1989). "*Cult archaeology and creationism: understanding pseudoscientific beliefs about the past* edited by Francis B. Harrold and Raymond A. Eve." Social Forces 67(4):1079-1080.

Book review.

Alters, Brian J. (1999). "What is creationism?" American Biology Teacher 61(2):103-106.

The popular belief that creationism is a product of fundamentalist-literalist

Christianity is mistaken. There are biochemists and university professors in the anti-evolution movement. There is a spectrum of beliefs within creationism from literalists, who believe the universe is no more than 10,000 years old, to theists, who believe evolution occurred, but not by a random process.

Amundson, R. (1998). "Typology reconsidered: two doctrines on the history of evolutionary biology." Biology & Philosophy 13(2):153-177.

Recent historiography of 19th century biology supports the revision of two traditional doctrines about the history of biology. First, the most important and widespread biological debate around the time of Darwin was not evolution versus creation, but biological functionalism versus structuralism. Second, the "idealist" and "typological" structuralist theories of the time were not particularly anti-evolutionary. Typological theories provided argumentation and evidence that was crucial to the refutation of Natural Theological creationism. The contrast between functionalist and structuralist approaches to biology continues today, and the historical misunderstanding of 19th century typological biology may be one of its effects. This historical case can shed light on current controversies regarding the relevance of developmental biology to evolution.

Anderson, I. (1996). "Creationism in the dock." New Scientist 152(2058):4.

Editorial.

Andrews, E. H., W. J. Ouweneel, et al. (1986). Concepts in creationism. Welwyn, Herts, England, Evangelical Press. ISBN 0-852-34228-4.

Appleby, R. S. (1997). "*Creationism in twentieth-century America: a ten-volume anthology of documents, 1903-1961*, by R.L. Numbers." Church History 66(2):406-408.

Book review.

Ashby, John B. and John Watanen, Jr. (1986). "Religion and Michigan politics: 'creation science'." Michigan Academician 18(1):41-59.

The dispute over "creation science" in Michigan public schools is analyzed. The history of objections by fundamentalists to the theory of evolution is traced and related to the specifics of the Michigan case. Relatively homogeneous rural school districts tend to respond to local opinion and beliefs; even when faced with contradicting state and federal policies, they will often proceed according to local sanctions and wait for litigation. Elected leaders must respond by forcing the issue into the federal court system where a judiciary that is less susceptible to public pressure is more likely to render unbiased decisions.

Baigrie, Brian S. (1986). "*Abusing science: the case against creationism.*" Dialogue 25(3):588-592.

Book review.

Bailey, Lloyd R. (1993). Genesis, creation, and creationism. New York, Paulist Press. ISBN 0-809-13255-9.

Bainbridge, William Sims (1988). "*Cult archaeology and creationism: understanding pseudoscientific beliefs about the past.*" Science 240(4855):1048.

Book review.

Ball, Howard G. and Terrance J. Nordmann. (1981). Scientific creationism in our public school curricula.

Aspects of the theory of "scientific creationism" are defined and compared to accepted evolutionary theory. Implications of the accommodation of creationism in public school science curricula are then discussed. A history of state legislation mandating the inclusion of creationism as an alternative to the theory of evolution is reviewed, and the status (as of April 1981) of legislative action in 13 states is summarized, as provided by the Institute for Creation Research in El Cajon, California.

ED205381; available from ERIC.

Bambach, Richard K. (1983). "Responses to creationism." Science 220(4599):851-853.

Six books written in response to creationist arguments are reviewed. Indicates that the books should be of great utility in educating students in the sciences and in presenting the case for science, as separate from religion, to the uncommitted public.

Barinaga, Marcia (1989). "Another blow for creationism in California." Nature 337(6205):299.

Baskin, Yvonne (1991). "Creationist school lives on." Science 251(4995):738.

An article about the activities of the Institute for Creation Research.

Baum, Rudy (1981). "Battle brewing over Arkansas creationism law." Chemical and Engineering News 59(27):25-26.

Reports recent proceedings regarding a new law enacted in early 1981 in Arkansas which requires schools that teach evolution to teach what the law calls "creation science." Opposition to the law by the American Civil Liberties Union is discussed.

Beckett, Chris (1988). "A theory to raise the spirits." New Scientist 120(1642):58.

Begley, Sharon (1996). "Heretics in the laboratory." Newsweek 128(12):82.

There are significant numbers of scientists who conform to the creationist beliefs in the Bible. They are usually not in disciplines such as geology, evolutionary biology or astronomy, whose principles would conflict with their beliefs. Yet they publish papers in respected journals in their fields.

Behe, Michael J. (1996). Darwin's black box: the biochemical challenge to evolution. New York, Free Press. ISBN 0-684-82754-9.

Benen, Steve (1998). "Evolving debate." Church & State 51(9):13-16.

Debate continues about the role of religion in public school science classes. The U.S. Supreme Court ruled unanimously in 1966 that an Arkansas law preventing teaching of evolution was unconstitutional, and in 1987 that a Louisiana statute requiring teaching creationism violated the separation of church and state. Nevertheless, since 1996, at least six state legislatures have considered promoting creationism or banning the teaching of evolution.

Bennetta, William J. (1986). Crusade of the credulous: a collection of articles about contemporary creationism and the effects of that movement on public education. San Francisco, California Academy of Science Press.

The articles "Crusade of the credulous" and "Confronting the armies of the night" first appeared in the January-March 1985 issue of *Pacific discovery*, vol. 38, no. 1; "Looking backward" and "Faking it" in the October-December 1985 issue, vol. 38, no. 4.

Bentley, Michael L. (1984). "Report: creationism through the back door—the case of Liberty Baptist College." Science, Technology and Human Values 9(4):49-53.

Examines issues and events related to Liberty Baptist College's request to have the Virginia Board of Education approve its biology program for teacher training. Criteria used in evaluating the program and interpretations of various individuals

involved in the controversy are included.

Berra, Tim M. (1990). Evolution and the myth of creationism: a basic guide to the facts in the evolution debate. Stanford, Calif., Stanford University Press. ISBN 0-804-71548-3.

Binder, Amy J. (1998). "Token victories" vs "visible defeats": public schools respond to Afrocentric and creationist curriculum challenges. Northwestern University.

Addresses how school systems in the 1980s and 1990s responded to two types of curriculum reform challenges that they perceived to be threatening: Afrocentrism and creation science. Despite finding the scholarly claims of both movements to be seriously flawed, educators were able to thoroughly invalidate only the creationist effort. Conversely, because of the more powerful resources available to the Afrocentric challengers (relative to creationists), educators were forced to incorporate parts of the Afrocentric agenda into their school systems, even if only symbolically. The resources that Afrocentrists had available to them were of two types: cultural and organizational. These advantages are analyzed using media, interview, and archival data, and, in light of social movements, framing and new institutionalist theory.

Contact author for a copy: Northwestern University, Evanston IL 60208; telephone: 640-326-4015; e-mail: abinder@nwu.edu.

Bird, Wendell R. (1980). "Creationism and evolution: a response to Gerald Skoog." Educational Leadership 38(2):157.

An advocate of scientific creationism states arguments for its inclusion in the public school curriculum.

Birx, H. James (1999). "*Tower of Babel: the evidence against the new creationism*." Library Journal 124(5):106.

Book review.

Bjorklun, Eugene C. (1992). "Evolution and creationism in the public school curriculum: the academic freedom issue." Religion & Public Education 19(1):57-66.

Reviews the controversy of teaching evolution and creationism in public schools from the early years of the twentieth century until today. Identifies two stages of the legal challenges to the teaching of evolution. Contends that academic freedom issues may provide another avenue to the Supreme Court for those supporting

creationism.

Bleifeld, Maurice (1983). "Creationism vs. evolution: is education the prime target?" NASSP Bulletin 67(459):111-117.

Discusses the nature of the movement to include scientific creationism in the school curriculum and science textbooks, explains the extent of scientists' acceptance of evolution, and describes actions being taken to counteract creationist efforts in an organized and effective manner.

Blosser, Patricia E. (1983). "What research says: creationism vs. evolution." School Science and Mathematics 83(3):222-227.

To assist teachers and others in dealing with the teaching of creationism versus evolution, this fact sheet provides a list of references found in the ERIC database.

Boston, Rob (1995). "Of pandas and the Constitution." Church & State 48(4):8-11.

The decision of the school board of Plano, Texas, to adopt *Of pandas and people: the central question of biological origins* as a textbook in science classes was opposed by members of the Keep Quality In Plano Schools. Due to this opposition, the board decided not to adopt the book. Jon Buell, who heads the book's publishing company, has decided to sell the book directly to biology teachers. The book describes creationism as intelligent design in an attempt to remove the religious aspects of the topic. Similar conflicts between religious organization and schools in other states are given.

Bratt, J. D. (1994). "*The creationists: the evolution of scientific creationism* by Ronald L. Numbers." Reviews in American History 22(2):335-339.

Book review.

Bridgstock, M. (1994). "*The creationists: the evolution of scientific creationism* by Ronald L. Numbers." Annals of Science 51(6):664-665.

Book review.

Broad, William J. (1981). "Creationists limit scope of evolution case." Science 211(4488):1331-1332.

Reviews events in the California courts surrounding a five-day trial concerning the teaching of biblical creation in the public schools.

Brooke, J. H. (1994). "*The creationists: the evolution of scientific creationism* by Ronald L. Numbers." British Journal For the History of Science 27(93):238-239.

Book review.

Brown, Arthur I. (1995). The antievolution works of Arthur I. Brown. New York, Garland Publishing. ISBN 0-815-31804-9.

Contents: Evolution and the Bible. Evolution and the blood-precipitation test. God's creative forethought. Men, monkeys and missing links. Science speaks to Osborn. Was Darwin right?

Brumble, H. David (1998). "Vine Deloria, Jr., creationism, and ethnic pseudoscience." American Literary History 10(2):335.

Deloria is criticized for proclaiming the scientific merits of creationism and his academic audience is called gratuitous for praising his work only because he is a Sioux Indian. Deloria counters that he must be winning because those opposing him offer no evidence or argument, but only personal attack.

Brush, Stephen G. (1981). "Creationism/evolution: the case AGAINST 'equal time'." Science Teacher 48(4):29-33.

Compares and contrasts the theories of creationism and evolution. Includes a National Science Teachers Association position statement on the inclusion of nonscience theories in science instruction.

Buckley, William F., Jr. (1997). "Re-creating creation." National Review 49(25):62.

Buckley in his regular column recounts the controversy over the teaching of creationism in public schools, expressing his sympathy with the partisans of creationism.

Buckna, D. A. (1996). "The evolution of creationism." The Sciences 36(5):47.

Letter to the editor.

Buderi, Robert (1989). "Creationism in teaching: small changes, big fuss." Nature 342(6247):219.

Editorial.

Buderi, Robert (1989). "Science in schools: no more creationism." Nature 341(6243):560.

Editorial.

Buderi, Robert (1990). "Approval for degrees turned down." Nature 343(6258):501.

The California Department of Education has withdrawn from the Institute for Creation Research Graduate School the right to grant degrees.

Byers, David M. (1994). "Pace Galileo: the present and future of religion/science dialogue." America 170(12):26.

Despite the efforts of theological-scientific groups such as Cosmos and Creation and the CHARIS Ecumenical Center, some friction between creationists and physicists lingers. Some of the presentations at a 1993 University of Notre Dame conference are analyzed.

Cain, Joseph Allen (1988). "Creationism and mammal origins." Journal of Geological Education 36(2):94-105.

Questions a hypothesis from creation science dealing with mammals. Claims that, when tested, the hypothesis fails in two ways.

Callahan, H. S., et al. (1997). "Celebrating Darwin in East Tennessee." American Journal of Botany 84(Supplement 6):262.

Article presented at the meeting of the Botanical Society of America and the Canadian Botanical Association/Association Botanique du Canada, Montréal, Québec, Canada, August 3-7, 1997.

Cavanaugh, Michael Arthur (1986). A sociological account of scientific creationism: science, true science, pseudoscience. Pittsburgh, Pa., University of Pittsburgh. Ph.D. dissertation.

Neither strictly non-rational nor deviant science, scientific creationism is a social movement of amateur philosophers of science seeking to influence science education through political rather than professional avenues. A sociology of knowledge approach, employing document analysis and fieldwork discloses its class basis; its specific religious orientation to rationality; and the ways in which it does, and does not, advance either rational or reasonable claims. Scientific creationists comprise those creationists, almost exclusively fundamentalist Protestant Christians, who are generally outside the South; technically educated; employed in

schools or large organizations (notably, as engineers and geologists); and who form social movement organizations to attack evolutionary biology on the basis of the "doubting Thomist variant" of the True Science tradition. True Science, a tradition of religious scholasticism holding that the Books of Nature and of Scripture yield the same Truth, has played a role in the history of science. Today it is degenerative; would render scientific research incoherent; and thus constitutes pseudoscience. Therefore scientific creationism is an instance of a religious social movement which is not strictly non-rational. However, the degenerative character of its rationality deprives its program of a reasonable claim upon public attention; policy and the conduct of scientific research.

Cavanaugh, Michael A. (1987). "One-eyed social movements: rethinking issues in rationality and society." Philosophy of the Social Sciences 17(2):147-172.

A reexamination of classic sociological thinking about rationality and society from the perspective of recent thinking in the philosophy of science. It is suggested that "one-eyed social movements" such as scientific creationism, which take advantage of social rationality without being reasonable, cast doubt on the idea that society is inherently irrational, which is assumed, for example, in the classical theory of collective behavior. Indeed, the very category of collective behavior is called into question, as is the tendency to explain behavior included in that category as irrational or pathological. Research on the idea of moral economy and on social movements suggests an alternative view. The dimensions of the concept of rationality—in knowledge-based societies, at once a description and an evaluation—are explored, and rationality is contrasted with reasonableness, for which there are stronger requirements.

Chaikowsky, J. (1998). "Creationism in the classroom." Geotimes 43(9):4.

Letter to the editor.

Chasan, Rebecca (1998). "Fighting back for science." BioScience 48(1):8.

A group of educators and students in Tennessee called the Tennessee Darwin Coalition are opposing attempts of creationists to pass laws that would require the teaching of creationism together with evolution in public schools.

Chast, Roz (1997). "Strange matter: lesser-known tenets of creationism." The Sciences 37(1):49.

Chmelynski, Carol (1994). "The 'C' word is back: creationism." Education Digest 60(3):14.

Public school teachers are again being pressured to teach creationism as

proponents of "creation science" continue to emerge and take steps to have their views reintroduced into the curriculum.

Christensen, Bryce (1999). *"Tower of Babel: the evidence against the new creationism."* Booklist 95(13):1131.

Book review

Clark, Harold Willard (1980). New creationism. Nashville, Southern Pub. Association. ISBN 0-812-70247-6.

Clark, Harold Willard and Frank Lewis Marsh (1995). The early writings of Harold W. Clark and Frank Lewis Marsh. New York, Garland Publishing. ISBN 0-815-31809-X.

Contents: Back to creationism / Harold W. Clark. The new diluvialism / Harold W. Clark. Fundamental biology / Frank Lewis Marsh.

Cloyd, Frances L. and Charles F. Faber. (1983). An examination of the constitutionality of mandating balanced treatment of evolution and creationism in public schools.

Legislation, rulings, and arguments for and against public schools giving creationism equal time or consideration with evolution are discussed. In the 1920s fundamentalists began to promote statutes prohibiting the teaching of evolution in public schools. Since that time the creationists have sought to supplant evolution with creationism on the grounds that the teaching of evolution inhibits the free speech and religious practices of the believers of creationism. They have demanded that the study of evolution be reduced or eliminated because it is a religious theory and, in particular, a vital aspect of secular humanism, and, thereby, violates the first amendment. Nothing could be further from the truth. In fact, laws mandating the teaching of creationism violate constitutional rights. It is imperative for the sake of religious freedom in this country that the separation between church and state be maintained. As Supreme Court Justice William O. Douglas noted (Zorach v. Clausen, 343 U.S. 306, 314 1951), there are cases where the preferences of an individual or a majority cannot prevail.

ED241366; available from ERIC.

Cole, Henry P. and Eugenie C. Scott. (1981). "Scientific" creationism is not based on scientific research.

Science Citation Index is a service that lists the contents of over 3,000 of the most important science journals and proceedings. A computer search of the *Index* was

conducted using the terms "creationism," "scientific creationism," "special creation," "biblical creation" as well as related terms. The file searched extended from January 1978 until October 1981 and contained approximately 2.2 million items. Only 18 relevant items were located, none of which provided scientific evidence or logic for creationist concepts. Results of a second search using names of leading scientific creationists revealed that only 6 of 28 included in the sample published any articles in SCISEARCH (the computerized listing of all *Science Citation Index* contents plus an additional 1,000 journals and proceedings from the scientific/technical fields), none of which dealt with the basic concepts espoused by scientific creationism. This indicates that the basic concepts included in scientific creationism curriculum materials are not supported by the factual information and research of the natural sciences. Although scientific creationists continue to claim that the concepts which underlie their proposed curriculum materials are well-grounded in scientific theory and research, the comprehensive computer search conducted indicates that there is no basis for their key concepts.

ED237367; available from ERIC.

Collison, Michele N. K. (1994). "Biologist's theory of creation gets him into hot water at San Francisco State U." Chronicle of Higher Education 40(20):A20.

A biologist, Dean H. Kenyon, at San Francisco State University was debarred from teaching biology ever since he taught students that life on earth was created by "an intelligent agent." He was criticized by his colleagues for teaching creationism when he told his students in an introductory biology course for non-science majors about his theory. Kenyon believes that intervals in the theory of evolution can be explained only by his theory.

Conner, Cliff (1981). Evolution vs. creationism: in defense of scientific thinking. New York, Pathfinder Press.

Reprinted from the *International Socialist Review*, November, 1980.

Cooper, R. A. (1996). "Should creationism be part of evolution?: statement." American Biology Teacher 58(3):133-134.

Letter to the editor.

Cracraft, Joel (1982). "The scientific response to creationism." Science, Technology, & Human Values 7(40):79-85.

Examines the proposition that creationism is legitimate science, including philosophical basis of that claim and methods used to discredit contemporary scientific thought. Discusses creationists' arguments against scientific findings related to the second law of thermodynamics, the improbability of evolution,

Earth's age, geological record, fossil transitions, and descent patterns, and the argument of design.

Cremo, Michael A. and Richard L. Thompson (1993). *Forbidden archeology: the* hidden history of the human race. San Diego, Bhaktivedanta Institute. ISBN 0-963-53098-4.

Crysdale, Stewart (1987). "*Fallacies of creationism*." Queen's Quarterly 94(4):1049-1051.

Book review.

Curtis, Ron (1991). "The role of creationism in evolutionary theory." Philosophy of the Social Sciences 21(3):389-400.

A review essay on a book by Michael Ruse, *But is it science?: the philosophical question in the creation/evolution controversy* (Buffalo, N.Y.: Prometheus Books, 1988). This new volume of essays on the scientific status of creation science (CS) and evolutionary theory is described as a "workbook" and purports to include various perspectives on the CS debate. It is contended that many important alternatives are neglected. Included in the essays is a discussion of McLean vs. Arkansas, which challenged state legislation that required public schools to give balanced presentations of CS and evolution science. Informed by the ideas of Karl Popper, the legal judgment held that the act was unconstitutional because CS could not stand under Popper's falsifiability criterion. Other essays criticize the court's decision, arguing that Popper's philosophy of science does not acknowledge that some science is unfalsifiable. Extending this line of reasoning, Stephen Jay Gould maintains that the strict neo-Darwinist synthesis of the mid-1950s has a built-in criticism-deflecting device. The book is criticized for confounding the distinctions between nineteenth-century creationism and late twentieth-century CS.

Dalrymple, G. Brent (1986). Radiometric dating, geologic time, and the age of the Earth: a reply to "scientific" creationism. [Reston, Va.?], U.S. Geological Survey. (Open-file report, 86-110).

Dalton, Rex (1999). "'FLAT Earthers' in battle with creationism." Nature 398(6727):453-454.

Daugherty, Richard F. (1988). Creationism/evolution in the public school: national policy as shaped through selected legal decisions.

This review of selected creationism/evolution cases illustrates that neutrality

toward religion has not been achieved by the current understanding and application of the First Amendment. Nine cases are cited and discussed: (1) Wright v. Houston Independent School District (1970); (2) Williams v. Board of Education of the County of Kanawha (1975); (4) Daniel v. Waters (1975); (5) Crowley v. Smithsonian Institution (1978); (6)Segraves v. State (1981); (7) Dale v. Board of Education (1982); (8) McLean v. Arkansas (1982); and (9) Edwards v. Aguillard. The courts have accepted claims that only evolution has a scientific basis, and therefore other theories of creation cannot be scientific. Recent case law consistently reflects this bias.

Paper presented at the Annual Meeting of the National Organization on Legal Problems in Education (34th: November 17-19, 1988: Washington, DC).

ED300896; available from ERIC.

Dawkins, Richard (1995). "Where d'you get those peepers?" New Statesman & Society 8(357):29-30.

The creationist claim that eyes are extremely complex organs which could not have evolved naturally is baseless. Research conclusively shows that eyes have in fact evolved numerous times over mankind's history.

Dayton, D. W. (1997). "*Creationism in twentieth-century America: a ten-volume anthology of documents, 1903-1961*, by R.L. Numbers." Zygon 32(1):105-113.

Creationism in twentieth century America: a ten-volume anthology of documents, 1903-1961 edited by Ronald L. Numbers (1995) is reviewed and analyzed. The transformation of antievolutionist thinking into scientific creationism is traced, with supporting documentation. The role of the Adventists and the writings of George Macready Price are seen as central in the collection, but the editor has underemphasized their significance. The question of the time lag between the publications on Charles Darwin's theory and the antievolutionism of the 1920s remains unanswered. It is concluded that the simplified view of creationism reflected in the collection shows how unquestioned assumptions an affect research.

Dembski, William A. (1998). "Science and design." First Things: a Monthly Journal of Religion and Public Life (No. 86):21-27.

The theory of divine intent or design can enhance scientific research. Manifestations exist that are unlikely to have developed only through random chance. The adoption of design opens up new lines of questions and discourse, and provides a set of empirical assumptions and constraints. These can guide the development of conceptual categories and methodological criticism.

Diana, Thomas L. (1998). "Can one believe simultaneously in God and the Big Bang?" Astronomy 26(8):48-49.

The accumulation of scientific knowledge, in particular the discoveries of quantum mechanics, makes less necessary the positing of an Unmoved Mover. But belief in a Spirit animating the natural world need not necessarily be inconsistent with what we know about the physical universe.

Dickerson, Richard E. (1990). "Letter to a creationist: seeking the middle ground." Science Teacher 57(6):48.

Letter to the editor.

Donaldson, Ken (1988). "The creationism controversy: it's only the beginning." School Library Journal 34(7):107-113.

Discusses several topics central to the evolution/creationism dispute:(1) Darwin's ideas and influence; (2) rise of fundamentalism in America; (3) what fundamentalists think about evolution today; (4) effects of attacks on evolution in the public schools; (5) what creationism is; (6) creationist objections to evolution; and (7) court battles.

Dunne, Philip (1990). "Dissent, dogma and Darwin's dog." Time 135(3):84.

Describes the battle to include creationist theories in California science textbooks.

Ebbert, C. W. (1995). "Creationism: reply." American Heritage 46(1):13.

Letter to the editor.

Eckberg, Douglas Lee and Alexander Nesterenko (1985). "For and against evolution: religion, social class, and the symbolic universe." Social Science Journal 22(1):1-17.

The causes and symbolic aspects of acceptance and rejection of the theory of evolution provide a test of the major explanations of social conservatism: cultural milieu (or moral community) and socioeconomic marginality. Telephone interviews were conducted with 308 adult residents of the Tulsa, Oklahoma, area regarding evolution and other issues, together with respondents' characteristics. For fundamentalist Protestants, stance on evolution is related to degree of religiosity, but independent of income and education. For Catholics and nonfundamentalist Protestants, stance on evolution is independent of religiosity, but related to education and perhaps to income. Thus, the socioeconomic and cultural explanations are both correct, but only within specific and different communities.

Eckberg, Douglas Lee (1992). "Social influences on belief in creationism." Sociological Spectrum 12(2):145-165.

Data from a 1986 telephone survey of 300 adults ages 18+ in the Tulsa, Oklahoma, metropolitan area are used to examine two approaches to understanding belief in creationism—long-term socialization and present community membership—and to analyze an array of socially conservative attitudes. Results support the long-term socialization approach, showing that belief in creationism is influenced by: size of childhood hometown; having had a mother who played a traditional homemaker role; and childhood denomination. It is also shown that among Christians who are not conservative Protestants, educational attainment has the strongest effect on scores on an index of creationist belief, but belief in the Bible has no effect; among conservative Protestants, however, education shows almost no effect. These findings are interpreted in terms of normative pressure on conservative Protestants to take literalist positions on the Bible and to view public education in hostile terms.

Ecker, Ronald L. (1990). Dictionary of science & creationism. Buffalo, N.Y., Prometheus Books. ISBN 0-879-75549-0.

Edis, Taner (1997). "Relativist apologetics: the future of creationism." Reports of the National Center for Science Education 17(1):17-19, 22-24.

Discusses the relativist apologetic strategy and describes a scenario in which the strategy could be adopted to give creationism intellectual respectability, thereby having the potential to create a climate where evolutionist arguments for an educational monopoly would not necessarily ring true.

Edwards, George R. (1989). "A critique of creationist homophobia." Journal of Homosexuality 18(3-4):95-118.

A critical examination of specific biblical narratives of creation that are sometimes used to construct a homophobic interpretation of the book of Genesis. "Creationist homophobia," which links Genesis 1-3 to Genesis 19 (i.e. the destruction of Sodom and Gomorrah), is traced with respect to its history and current applications. In 1978, the U.S. United Presbyterian Church prohibited the ordination of practicing homosexuals to the church's ministry, thus providing a pivotal role for homophobic interpretation of Genesis 1-3, and linking up with the exclusionist policies of the Roman Catholic and fundamentalist communions. Walter Brueggemann's sociological criticism (*Genesis: a Bible commentary for teaching and preaching: interpretation*, Atlanta, Ga.: John Knox, 1982) is critiqued. Creation sexuality is described, and expanded into an alternative literationist perspective.

Egan, Josephine and Leslie Francis (1992). "Does creationism commend the Gospel?: a developmental study among 11-17-year-olds." Religious Education 87(1):19-27.

Eglin, Paula G. and Mildred W. Graham (1982). "Creationism challenges geology: a retreat to the eighteenth century." Journal of Geological Education 30(1):14-17.

Some contentions of scientific creationism that conflict with accepted principles of geology (catastrophism, fossil records, earth's age, rock formation, second law of thermodynamics) are reviewed, demonstrating that these claims are based not on scientific research or reasonable conjecture but on Biblical references.

Eldredge, Niles (1982). The monkey business: a scientist looks at creationism. New York, N.Y., Washington Square Press. ISBN 0-671-44115-9.

Eldredge, Niles (1984). "Once more unto the breach: creationism revisited." Curriculum Review 23(1):73-76.

Discusses the resurgence of creationism as part of the upsurge of neopopulism and the new conservatism, and its importance due to its political nature. Creationist arguments are outlined, some problems created by the confrontation between creationism and science are discussed, and this confrontation's effects on the science classroom are described.

Engels, T. M. and J. Lopreato (1991). "Creationism vs. Darwinism: *Cult archaeology and creationism: understanding pseudoscientific beliefs about the past*." Journal of Social and Biological Structures 14(1):83-89.

Book review.

Engler, Suzanne Knudson (1995). ETs, rafts, and runestones: confronting pseudoarchaeology in the classroom. In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 91-98. ISBN 0-877455-13-9.

Eve, Raymond A. and Francis B. Harrold (1986). "Creationism, cult archaeology, and other pseudoscientific beliefs: a study of college students." Youth and Society 17(4):396-421.

Prevalence and distribution of certain pseudoscientific beliefs held by college students about human origins and prehistory were studied at a large, southwestern public university. Creationist beliefs were associated with religious and social conservatism. Pseudoarchaeological beliefs were somewhat related to age and locus

of control, but not strongly related to other factors studied.

Eve, Raymond A. and Dana L. Dunn. (1988). Pseudoscientific beliefs among a national survey of high school science teachers. American Sociological Association.

A report on the results of a national questionnaire survey of a random sample of high school biology and life science teachers (N = approximately 300) drawn from the National Register of Science Teachers. The questionnaire was designed to tap respondents' opinions regarding their belief in a wide variety of controversial scientific "facts," e.g. ancient astronauts, lost continents, and scientific creationism. In addition, methodological innovation was used to improve assessment of actual certitude of belief. Attention is given to the prevalence of pseudoscientific beliefs in the sample, whether these beliefs are presented in class and, if so, under what circumstances and for what reasons. The holding of particular beliefs and the willingness to teach them in class are so, under what circumstances & for what reasons. The holding of particular beliefs and the willingness to teach them in class are related to a variety of background variables, including demographic factors, educational training, and views of science in general.

Report available from the authors at the Department of Sociology, University of Texas, Arlington, TX 76019.

Eve, Raymond A. and Dana Dunn (1990). "Psychic powers, astrology & creationism in the classroom?" American Biology Teacher 52(1):10-21.

Examined is the extent to which teachers actually hold pseudoscientific beliefs. Described are the study design, sources of pseudoscientific belief, and correlates with various types of pseudoscientific beliefs. Results indicate that many high school biology and life science teachers endorse these beliefs. Implications of this study are discussed.

Feder, Kenneth L. (1995). Cult archaeology and creationism: a coordinated research project. In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 34-48. ISBN 0-877455-13-9.

Ferrell, Keith (1991). "Inherit the ignorance: sixty-six years after the Scopes monkey trial, some schools still teach creationism as a science. Why does evolution frighten some people?" Omni 14(1):14.

Scientific creationism should not be taught alongside evolution in public schools. The principles of scientific inquiry are opposed to the dogma of religious faith.

Finkel, Elizabeth (1996). "Science of creationism to go on trial in Australia next year." Lancet 348(9042):1654.

In 1997 a judge will decide whether a fundamentalist church elder has been misleading his followers in insisting that he has evidence for the existence of the Ark and the Biblical flood.

Finkel, Elizabeth (1997). "Australian geologist battles 'Ark' claim." Science 276(5311):348.

University of Melbourne geologist Ian Plimer claimed fundamentalist church elder Allen Roberts' fundraising for a search for Noah's Ark in Turkey constituted unfair trade practices. Former believer and marine-salvage expert David Fasold charged Roberts with unauthorized use of his drawings of the site. The suit could have repercussions for all pseudoscience claims.

Folger, Peter (1998). "AGU Council reaffirms position statement against the teaching of creationism as science." Eos 79(27):319.

Francis, Joyce F. (1996). "Creationism v. evolution: the legal history and Tennessee's role in that history." Tennessee Law Review 63(3):753.

Frazier, Kendrick (1997). "Pope's affirmation of evolution welcomed by scientists, educators." Skeptical Inquirer 21(1):5.

Pope John Paul II formally announced that the theory of evolution does not contradict Roman Catholic dogma in his latest attempt to align the church with science. The statement was welcomed by the scientific and academic communities, but was downplayed by creationists. It was seen as a much-needed reassurance for the religious-minded that science and religion need not be divided over the issue of the origin of man.

Frazier, Christopher K. (1998). "PBS's Firing Line creation/evolution debate scores well for scientific view." Skeptical Inquirer 22(2):18.

The Public Broadcasting System's "Firing Line" presented a two-hour debate on evolution and creationism on December 19, 1997, before the students of Seton Hall University in South Orange, N.J. The proposition to be debated was "Resolved: The Evolutionists Should Acknowledge Creation." Those in favor of the resolution were William F. Buckley Jr., Phillip Johnson, Michael Behe and David Berlinski. The pro-evolution participants include Barry Lynn, Eugenie C. Scott, Michael Ruse and Kenneth Miller. The pro-evolution debaters were well-prepared and strongly defended their scientific views.

Fulljames, Peter and Leslie J. Francis (1988). "The influence of creationism and scientism on attitudes towards Christianity among Kenyan secondary school students." Educational Studies 14(1):77-96.

The attitude towards Christianity of 624 sixth form students in Kenya was measured using the Francis scale of attitude towards Christianity. Results suggest that attitude towards Christianity is influenced negatively by the view that scientific research results in absolute truth. There was no relationship between scientism and perception of creationism.

Fulljames, Peter (1991). "Creationism, scientism, Christianity and science: a study in adolescent attitudes." British Educational Research Journal 17(2):171-190.

Presents results of a study of 16- to 18-year-olds measuring attitude toward Christianity and interest in science. Finds significant negative correlation between the two. Cites key factors explaining this negative relationship as the perception of Christianity as necessarily involving creationism and of science as attaining to absolute truth or scientism.

Gatzke, Ken W. (1985). "Creationism as science: what every teacher-scientist should know." Science Education 69(4):549-555.

Addresses philosophical problems of the evolution/creationism debate (including underlying assumptions of creationism and nature of science), suggesting that creationism cannot be presented as science in science courses because it fails to qualify as a science. Prediction and explanation, absolute creationism, and a fundamental difficulty in "scientific" creationism are among the areas explored.

Gaustad, Edwin S. The establishment clause: public schools. In: Church and state in America. New York; Oxford, Oxford University Press, 1998, p. 97-99. ISBN 0-19510-679-2.

Reviews two landmark Supreme Court decisions of the twentieth century relating to the teaching of evolution in public schools: Epperson vs. Arkansas (1968) and Edwards vs. Aguillard (1987).

Gavan, James A. (1993). "*The creationists: the evolution of scientific creationism* by Ronald L. Numbers." American Journal of Physical Anthropology 91(1):135-136.

Book review.

Gentry, R. V. (1998). "Creationism continued." American Scientist 86(3):212-213.

Letter to the editor.

Giese, A. C. (1984). "Defusing creationism." American Zoologist 24(3):65A.

Paper presented at the Annual Meeting of the American Society of Zoologists.

Gilkey, Langdon Brown (1985). Creationism on trial: evolution and God at Little Rock. Minneapolis, Minn., Winston Press. ISBN 0-866-83780-9.

"This volume represents an account ... 'theological' witness for the American Civil Liberties Union (ACLU) at the 'creation' trial in Little Rock, Arkansas, December 7-9, 1981"—Preface.

Gillis, Anna Maria (1994). "Keeping creationism out of the classroom: grassroots efforts and the Constitution hold their own against religious extremism." BioScience 44(10):650-656.

Offers suggestions to secondary teachers faced with teaching the concepts of evolution to a group of skeptical students. Presents a variety of comments from groups that support the integration of evolution into the science curriculum and opposing the adoption of creationism as a part of the science curriculum.

Goddard, Connie (1990). "Court says school may bar teaching creationism." Publishers Weekly 237(47):10.

Godfrey, Laurie R. (1981). "The flood of antievolutionism: where is the science in 'scientific creationism'?" Natural History 90(6):4, 6, 9-10.

Discusses various aspects of the current debate surrounding evolution and creationism including the debate between neocatastrophists and phyletic gradualists. Includes a brief history of the Creation Research Society and other groups formed by antievolutionists.

Godfrey, Laurie R. (1984). Scientists confront creationism. New York, W.W. Norton. ISBN 0-393-01629-3 (hardbound); 0-393-30154-0 (paperback).

Godfrey, Laurie R. and John Cole (1995). Century after Darwin: scientific creationism and academe. In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 99-123. ISBN 0-877455-13-9.

Goodman, Scott (1997). "Creationism defeated in British Columbia." Reports of the National Center for Science Education 17(4):18-19, 22.

Reports that creationism has been specifically banned from the provincial curriculum as a legitimate scientific subject in all public schools and level one private schools in British Columbia.

Gorman, James (1981). "Creationists vs. evolution." Discover 2(5):32-33.

Reviews results of a California trial concerning the teaching of evolution in public school classrooms. Also lists recent legislation in the states of Florida, California, Minnesota, South Dakota, Kansas, Illinois, Iowa, Texas and Arkansas.

Gorman, James (1982). "Judgment day for creationism." Discover 3(2):14-18.

Reviews the issues behind, and proceedings of, the Arkansas court case in which the constitutionality of a law requiring a balanced treatment of creation science and evolution science in public schools was challenged. Summarizes testimony of key witnesses for both sides.

Gould, Stephen Jay (1981). "Evolution as fact and theory." Discover 2(5):34-37.

This essay by a Harvard evolutionist presents viewpoints concerning the creationists' arguments against evolutionary biology. Semantics regarding "facts" and "theory" of evolution are examined, examples are cited of creationist argument, and arguments for evolution are presented.

Gould, Stephen Jay (1983). "This view of life: unconnected truths." Natural History 92(3):22-26.

Discusses a 20-year period in British geology (1820-1840), focusing on a theory proposed by Reverend William Buckland in his "reliquiae diluvianae of Relics of the Flood." Indicates that this flood theory, the centerpiece of modern creationism, was disproved by professional clergymen who were also geologists, scientists, and creationists.

Gould, Stephen Jay (1987). "Darwinism defined: the difference between fact and theory." Discover 8(1):64-70.

Discusses various developments in both science and theology following the work of Charles Darwin on evolution. Differentiates between the facts regarding evolution and the theory of natural selection as a mechanism for evolutionary change. Warns that the differences between facts and theory have not been adequately emphasized

by scientists.

Gould, Stephen Jay (1988). "Genesis and geology: are you interested in the Rock of Ages or the age of rocks?" Natural History 97(9):12-16.

Gould reviews the attitudes toward geological evolution of two nineteenth-century British writers, W.E. Gladstone and Thomas H. Huxley, and how they their views related to those of Charles Darwin, their contemporary.

Gould, Stephen Jay (1989). "An essay on a pig roast; and some good advice—from a foe—for scientific creationists." Natural History 98(1):14.

The author gives a precis of the life and writings of Henry Fairfield Osborn, a zoologist who lived until the '60s of this century, and some of his ideas relating to evolution and creationism.

Grafton, Anthony (1993). "The sense of an ending." The New Republic 208(10):29.

Book review.

Gray, J. Patrick and Linda D. Wolfe (1982). "Sociobiology and creationism: two ethnosociologies of American culture." American Anthropologist 84(3):580-594.

The relationship between humans and nonhuman animals is one of the most important motifs in mythology and a major concern of both human sociobiology and "scientific" creationism. It is suggested here that sociobiology and creationism function as ethnosociologies of U.S. society, and that neither can be completely understood until they are related to each other and to the key symbols of U.S. culture. Sociobiology and creationism are argued to be comments on the secular worldview of U.S. culture, and to exist as transformations of one another.

Gray, Thomas (1995). Educational experience and belief in paranormal phenomena. In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 21-33. ISBN 0-877-45513-9.

Gregory, Frederick (1993). "*The creationists: the evolution of scientific creationism* by Ronald L. Numbers." Historian 56(1):176-177.

Book review.

Grobman, Arnold and Hulda Grobman (1989). "A battle for people's minds: creationism and evolution." American Biology Teacher 51(6):337-340.

The gradual decline of anthropocentrism from 50,000 BCE to the present is traced in relation to the controversy over the teaching of evolution and creationism. The discussion focuses on the battle over people's minds as waged in the public schools by fundamentalist religious groups and others.

Grobman, Arnold (1998). "Creationism article draws enthusiastic response." American Biology Teacher 60(9):648.

Letter to the editor.

Grover, Herbert J. (1984). "Evolving state policy on creationism." Educational Leadership 42(4):69-71.

The Wisconsin Department of Public Instruction defused a potentially explosive situation involving the teaching of biological origins by involving members of the educational community in statewide committees that produced two documents focusing on the distinction between science and religion and providing technical assistance.

Grunes, Rodney A. (1989). "Creationism, the courts, and the First Amendment." Journal of Church and State 31(3):465-486.

Hampton, J. E. (1996). "The evolution of creationism." The Sciences 36(5):47-48.

Letter to the editor.

Hamre, James S. (1991). "The creationist-evolutionist debate and the public schools." Journal of Church and State 33(4):765-784.

Handberg, Roger (1984). "Creationism, conservatism, and ideology: fringe issues in American politics." Social Science Journal 21(3):37-51.

Public attitudes toward creationism were investigated through a telephone survey of Florida residents (N = 1,086, aged 18+). Findings indicate that those who could be called "creationists" tended overwhelmingly to be of low socioeconomic status, nonwhite, female, and less formally educated; also, Protestants were more likely to be creationists, especially those of fundamentalist sects. No noticeable differences in political attitudes between creationists and noncreationists was found, although opinions vis-à-vis social policy issues varied, which is explained by degree of formal education. The educationally marginal were found to be somewhat more supportive of creationism. It is concluded that creationism is an issue of concern for citizens but is not central to political motivation.

Harrold, Francis B. and Raymond A. Eve (1986). "Noah's Ark and ancient astronauts: pseudoscientific beliefs about the past among a sample of college students." The Skeptical Inquirer 11(1):61-75.

A total of 407 undergraduate students at a public university in Texas answered a questionnaire using closed-ended, modified Likert scale items concerning pseudoscientific beliefs about the human past. A factor-analytic statistical procedure confirmed that the beliefs fall into two distinct domains: (1) creationism, involving more or less literal acceptance of the Bible's account of human origins; and (2) cult archaeology, a set of sensationalistic claims including those about visits to earth by ancient astronauts and about the lost continent of Atlantis. Creationist beliefs were found to be significantly related to conservative religious and political ideologies, to lower grades and less frequent reading, and to indications of more dogmatic and authoritarian personalities. The etiology of cult archaeology beliefs is less clear, although older students were less likely to hold such beliefs. It is concluded that pseudoscientific beliefs have several different likely origins, and are not always susceptible to easy change. Implications for science education are discussed.

Harrold, Francis B. and Raymond A. Eve, eds. (1987). Cult archaeology and creationism: understanding pseudoscientific beliefs about the past. Iowa City, University of Iowa Press. ISBN 0-877-45176-1.

Harrold, Francis B. and Raymond A. Eve, eds. (1995). Cult archaeology & creationism: understanding pseudoscientific beliefs about the past. Iowa City, University of Iowa Press. ISBN 0-877-45513-9.

Contents: 1. The nature and dangers of cult archaeology / William H. Stiebing, Jr. 2. Scientific creationism: world view, not science / Alice B.Kehoe. 3. Educational experience and belief in paranormal phenomena / Thomas Gray. 4. Cult archaeology and creationism: a coordinated research project / Kenneth L. Feder. 5. East Is East and West Is West? A regional comparison of cult belief patterns / Luanne Hudson. 6. Patterns of creationist belief among college students / Francis B. Harrold and Raymond A. Eve. 7. ETs, rafts, and runestones: confronting pseudoarchaeology in the classroom / Suzanne Knudson Engler. 8. A century after Darwin: scientific creationism and academe / Laurie Godfrey and John Cole. 9. Fantastic archaeology: what should we do about It? / Stephen Williams. 10. Multiculturalism, cult archaeology, and pseudoscience / Bernard Ortiz de Montellano. 11. Cult archaeology and creationism in the 1990s and beyond / Francis B. Harrold, Raymond A. Eve and Geertruida C. de Goede.

Harrold, Francis B., Raymond A. Eve, et al. (1995). Cult archaeology and creationism in the 1990s and beyond. In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 152-

175. ISBN 0-877-45513-9.

Harrold, Francis B. and Raymond A. Eve (1995). Patterns of creationist belief among college students. In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 68-90. ISBN 0-877-45513-9.

Hazard, E. B. (1993). "Evolution vs creationism." American Biology Teacher 55(6):328-329.

Letter to the editor.

Heaton, Timothy H. (1995). "A young Grand Canyon?" Skeptical Inquirer 19(3):33.

Creation geologist Steven A. Austin claimed in his book *Grand Canyon: monument to catastrophe* that the Grand Canyon developed as a result of the Great Flood during Noah's time. However, Austin's evidence and assertions are questionable, primarily because he considered geological samples from a small region to support his Great Flood hypothesis. Moreover, he failed to consider that the Grand Canyon's different layers contained fossil samples of animals which died at relatively the same time. Other criticisms on Austin's hypothesis are presented.

Hefner, Philip (1988). "The significance of creationism." Journal of Religion 68(1):72-78.

Hewitt, Gordon (1986). "Creationism: gospel, heresy or science?" Tuatara (Wellington, N.Z.) 28(2):71-82.

Hitt, Jack (1996). "On earth as it is in heaven: field trips with the apostles of creation science." Harper's Magazine 293(1758):51-60.

Neo-creationists are promoting creationism as another theory to be taught alongside evolution in classrooms. Many creationists have geology degrees from prestigious universities but still adhere to the Biblical teaching that the earth is about 6,000 years old.

Hoesch, William A. and Steve Edinger (1997). "Is there a scientific basis for creationism?" CQ Researcher 7(32):761.

Supporters of creationism believe that the very symmetry of nature indicates that it could not be a random event, similar to the way an archaeologist determines an

arrowhead was human-created. This complexity is supported in studies of the DNA and the fossil world. Supporters of evolution ask for testable hypotheses and point to the poor designs in nature, such as a rabbit's digestive tract, to refute the idea of an intelligent design. There is also significant scientific data to support evolution.

Hoeveler, J. D. (1992). "*The creationists: the evolution of scientific creationism* by Ronald L. Numbers." Science 258(5081):487-488.

Book review.

Hogan, Peter, ed. (1991). Creationism: scientists respond. Melbourne, Vic., Australian Skeptics Inc. Victorian Branch. ISBN 0-646-04100-2.

Ten leaflets published by the Melbourne Support Group of the Creation Science Foundation are reproduced and refuted by scientists and educators.

Holden, Constance (1992). "Creationism compromise." Science 255(5047):927.

Editorial.

Holtzman, Eric (1982). "The Arkansas creationism trial: an overview of the legal and scientific issues." Science, Technology & Human Values 7(40):94-99.

Discusses various legal and scientific issues related to the McLean v. Arkansas 590 (balanced treatment of creationism/evolution), including the nature of "creation science," responses from scientists and lawyers, focus of the plaintiff's case (anticreationism), nature of science, and one example illustrating the creationist tendency to use facts supporting their argument while ignoring others.

Howick, William H. (1982). Creationism and scientism.

The creationism evolution controversy has become a problem of major concern in many states, especially Arkansas and Louisiana, and is the basis for dispute in many courts. Creationists, sensing the need for a modern approach, have now become less concerned with the theological rationale for their argument and have turned to the scientific field as a base for their claims. Creationism starts with a fixed position, a conclusion, which is in direct contrast with that of pure science which holds to nothing until facts are generated which point toward an assumption, then an experimentally-based theory, and in some cases, finally, a law. For the true religious fundamentalist, the Bible is the literal word of God and within its pages are the answers and solutions to life's problems and perplexities. When the Bible says in clear language that God created the world in six days and then rested on the seventh, man, say the creationists, should believe that precisely as it is written. This position held by creationists is contrasted to the position

promulgated by modern scientists. Several reactions to the controversy are discussed.

ED222380; position paper available from ERIC.

Hoyle, Fred and Nalin Chandra Wickramasinghe (1982). Evolution from space: a theory of cosmic creationism. New York, Simon and Schuster. ISBN 0-671-45031-X.

Hudson, Luanne (1995). East is East and West is West?: a regional comparison of cult belief patterns. In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 49-67. ISBN 0-877455-13-9.

Hughes, S. W. (1993). "Evolution vs creationism." American Biology Teacher 55(6):326-327.

Letter to the editor.

Hummon, William D. (1985). "Scientific creationism mythology in the making." American Zoologist 25(4):46A.

Paper presented at the Annual Meeting of the American Society of Zoologists.

Hummon, William D. (1986). "Creationism: shifting concepts about the fixity of created kinds." American Zoologist 26(4):68A.

Paper presented at the Annual Meeting of the American Society of Zoologists.

Hummon, William D. (1987). "Genesis 1 1-2 3: an alternative view to that of young-earth creationism." American Zoologist 27(4):106A.

Paper presented at the Annual Meeting of the American Society of Zoologists.

Hummon, William D. (1993). "Creationism: bound by propositional truth in an inerrant Bible." American Zoologist 33(5):146A.

Paper presented at the Annual Meeting of the American Society of Zoologists, Los Angeles, California, December 26-30, 1993.

Hyers, C. (1994). "*Genesis, creation and creationism* by Lloyd R. Bailey."

Interpretation: a Journal of Bible and Theology 48(4):420.

Book review.

Iannone, Carol (1997). "The truth about 'Inherit the Wind'." First Things: a Monthly Journal of Religion and Public Life (No. 70):28-34.

"Inherit the Wind," which as both play and motion picture depicts the famed Scopes trial on evolution vs. creationism held in Dayton, Tennessee in 1925, is an oversimplified distortion of the details surrounding the trial, its principals and the issues involved. The star prosecutor, William Jennings Bryan, suffers especially from these fabrications. Bryan was not some crude fundamentalist, but a profoundly religious, deeply perceptive, political progressive. He saw evolutionary theory as dangerous to society because it legitimizes economic and social exploitation while discouraging social reform.

Jaffa, Harry V. (1988). "The Supreme Court monkeys around." National Review 40(2):46-48.

Commentary on the Supreme Court's decision in Edwards vs Aguillard regarding the legality of teaching creationism as another scientific theory alongside evolution in Louisiana high schools.

Jelen, Ted G. and Alfred R. Martin. (1985). The effects of science education on attitudes toward creationism among Catholic college students. Illinois Sociological Association.

A survey of 290 Catholic college students was conducted to determine the effects of science curricula on attitudes toward the theory of evolution. A recursive path analysis shows that, while biology majors are somewhat more knowledgeable about evolution than other students, academic major is not significantly associated with belief in evolution or support for "equal time" measures designed to teach creationism as an alternative to evolution in schools. Belief in evolution has a moderate relationship with subjective biblical literalism and self-identified religiosity.

Available from the authors at Illinois Benedictine College, Lisle, IL 60532.

Jeszenszky, A. (1998). "Creationism article draws enthusiastic response." American Biology Teacher 60(9):648.

Letter to the editor.

Johnson, Phillip E. (1994). "Shouting 'heresy' in the temple of Darwin."

Christianity Today 38(12):22-26.

Darwin's supposedly scientific theory of chance mutation and natural selection is not empirical science, it is an atheistic myth for the secular scientific community. The central issue of creationism's fight to coexist in academia should be God's role in creation, not Biblical literalism.

Johnson, Phillip E. (1995). "'Scientism' vs creationism." The Scientist 9(8):12.

Johnson, Phillip E. (1995). Reason in the balance: the case against naturalism in science, law & education. Downers Grove, Ill., InterVarsity Press. ISBN 0-830-81610-0.

Johnson, Phillip E. (1997). "The unraveling of scientific materialism." First Things: a Monthly Journal of Religion and Public Life (No. 77):22-25.

Professor Richard Lewontin's theory of scientific materialism, based on the evolutionary theories developed by Charles Darwin, contrast with those of his Harvard colleague Stephen Jay Gould. Lewontin subscribes to scientific materialism that explains everything in the world, including thought and will, and attributes it to matter. Gould feels evidence must determine the facts without the initial influence of a materialist philosophy, which was Darwin's failure.

Jukes, Thomas H. (1991). "Random walking: creationism vs. *Scientific American*." Journal of Molecular Evolution 33(1):1-2.

Editorial.

Jukes, Thomas H. (1992). "Creationism vs. *Scientific American* : comments." Journal of Molecular Evolution 34(1):2.

Jukes, Thomas H. (1995). "Random walking: battling creationism Down Under." Journal of Molecular Evolution 40(6):707-708.

Letter to the editor.

Kadlecek, Jo (1994). "Science gets religion: academic disciplines meet at C.S. Lewis conference." Christianity Today 38(10):58-60.

The third triennial C.S. Lewis Summer Institute attracted 400 theologians, astronomers, physicists, and philosophers to debate "Cosmos and Creation: Chance or Dance?" They agreed that science and religion converge in cosmology in

a variety of lively discussions.

Kalthoff, Mark A., ed. (1995). Creation and evolution in the early *American Scientific Affiliation*. New York, Garland Publishing. ISBN 0-815-31811-1.

Kehoe, Alice B. (1995). Scientific creationism: world view, not science. In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 11-20. ISBN 0-877455-13-9.

Kenkel, Father Leonard A. (1985). "A case against scientific creationism: a look at content issues." Science Education 69(1):59-68.

Discusses: (1) the theology of creation (religion); (2) evolution (science); and (3) scientific creationism (religious doctrine and pseudoscience). Points out that contrary to its claim, the latter is a sectarian religious doctrine in the guise of science demanding to be taught in the classroom "as a science."

Kessler, Gary (1993). "Creation science: a challenge in the physics classroom." Physics Teacher 31(5):300-305.

Biology teachers are usually treated to students who support a creation rather than evolutionary theory but the problem also arises in physics courses when considering astronomical evolution. One teacher's students presented a list of questions from creation literature that contradicted the evolutionary timescale. These questions and answers are provided, but the teacher warns that the answers only resolve the questions for students who are willing to learn and do not dismiss rational thought automatically.

Kinslow, R. (1995). "Creationism: reply." American Heritage 46(1):13.

Letter to the editor.

Kitcher, Philip (1982). Abusing science: the case against creationism. Cambridge, Mass., MIT Press. ISBN 0-262-11085-7.

Presented in this book is the case against creationist pseudoscience. One theme emphasized throughout the book, written for those with or without science backgrounds, is that although the creationist campaign is an assault on evolutionary theory, it constitutes an attack on all sciences. Chapter 1 provides a brief introduction to evolutionary theory. Chapters 2-4 constitute a defense of evolutionary theory against creationist objections. Global objections are addressed and discussed in chapter 2. Chapter 3 considers more specific creationist complaints about the methods of evolutionary biology. These are based on

misunderstandings of scientific methodology or evolutionary theory, or both. Chapter 4 considers the "scientific facts" that are supposed to refute evolution. Chapter 5 offers a critical evaluation of creation "science," examining creationist doctrine and whether the doctrine can be used to solve scientific problems. In this context, the significance of recent debates within evolutionary theory and creationist proposals for revising the geologic time table are discussed. Chapter 6 focuses on educational questions, including what genuine intellectual tolerance is required of individuals and tactics creationists use in exploiting tolerance. Chapter 7 examines the charge that evolutionary theory is intolerable because it is inimical to religion and morality.

Knight, John (1985). "Creation science, evolution science, and education: anything goes?" Australian Journal of Education 29(2):115-132.

Creationism and its attack on science in the curriculum are examined from the perspective of several contemporary theories of science, democratic rights are considered, and the social source of fundamentalism is examined. Creationism is seen as an attempt to restore unity to science.

Knight, John, Richard Smith, et al. (1986). "The right side: 'Creation science' in Queensland, Australia." New Zealand Sociology 1(2):88-103.

An analysis of the discourse of creationism in Queensland, Australia, focusing on its social-historical context. The concept of "creation science" is treated as an ideological articulation of religious fundamentalism, social conservatism, and the New Right; its effective consequence is the support of existing relations of power, inequality, and domination during the present transition to a postindustrial society. A 1986 questionnaire survey of 700 randomly selected Australians identified a creationist-fundamentalist subset of 109 respondents who were significantly more conservative than other Rs on religious beliefs, lifestyle issues, concerns for social stability and cohesion, an Anglo-dependent national identity, and the economic program of the New Right. The long-term success of the fundamentalist-creationist agenda is considered; it is concluded that the current debate over creation science indicates the inadequacy of science for giving meaning and significance to contemporary existence or for unifying a fragmented, secularized society.

Knight, John (1986). "'Creation science' in Queensland: some fundamental assumptions." Social Alternatives 5(3):26-31.

Attacks on the teaching of evolution and arguments for the presentation of "creationism" as an alternative theory of origins, in school science in Queensland, Australia, are typically grounded in religious beliefs and lifestyle prescriptions. These beliefs and prescriptions reflect a particular articulation of attitudes (religious and social fundamentalism) that has tended to support certain political and economic agendas in Queensland, in particular, social conservatism or the "New Right." These fundamental assumptions implicit or explicit in the case for "creationism," and the social sources of these assumptions, are addressed.

Koballa, Thomas R. (1985). "Creationism and doublespeak." Science Teacher 52(1):28-30.

Reports on techniques used by creationists to argue against evolution. They include intensifying or downplaying messages, omitting information, associating creationists beliefs with other beliefs, quoting out of context, and others. Also suggests that learning to read critically will help students evaluate creationists' rhetoric.

Kritsky, G. (1991). "Darwin's Madagascan hawk moth prediction." American Entomologist 37(4):206-210.

Kurtz, Paul (1998). "Darwin re-crucified: why are so many afraid of naturalism?" Free Inquiry 18(2):15-17.

Most Americans, including religious conservatives, believe in evolution. However, they reject the suggestion that God has not intervened in the creation process. This stance has led to the resurgence of debates concerning creation and evolutionary theories. An analysis of creationist logic points to its proponents' anxiety over the possibility that natural selection would adequately explain the origin of humans, and do away with the belief in God altogether. It is this prospect that religious people find completely unacceptable, thus, spurring them to dismantle naturalism.

Kwei, C. (1996). "The evolution of creationism." The Sciences 36(5):48.

Letter to the editor.

LaFollette, Marcel C. (1983). Creationism, science, and the law: the Arkansas case. Cambridge, Mass., MIT Press. ISBN 0-262-62041-3 (paperback); 0-262-12101-8 (hardbound).

Larson, Edward J. (1996). "*Creationism in twentieth-century America: a ten-volume anthology of documents, 1903-1961* edited by R.L. Numbers." British Journal For the History of Science 29(101):250-252.

Book review.

Ledley, Fred D. (1993). "Evolution and the biologist's daughter." Perspectives in Biology and Medicine 36(2):281-289.

The concepts in human evolution against creationism are discussed in the context

of the experiences of a biologist-parent in the birth and development of his child. Evolution is regarded as fundamental theory by scientists that does not sit well with the masses. However, the theories of evolution cannot summarily explain the mystique and experiences a parent feels in the development and birth of a child as opposed to the postulates of creationism.

Lehman, H. (1990). "*Confronting creationism, defending Darwin* by D.R. Selkirk, F.J. Burrows." Journal of Social and Biological Structures 13(2):177-179.

Book review.

Lessl, Thomas M. (1988). "Heresy, orthodoxy, and the politics of science." Quarterly Journal of Speech 74(1):18-34.

The editorial responses (number of respondents = 70) of scientists in interdisciplinary periodicals and books to the phenomenon of scientific creationism are analyzed to extend the work of Lester R. Kurtz on the politics of heresy. It was found that much like instances of heresy within religious contexts, scientific creationism, as heresy, elicits from orthodox scientists a rhetoric serving to solidify authority, define institutional boundaries, enhance group solidarity, and, as ritual, to collectively relieve anxiety.

Levin, Michael (1989). "*Cult archaeology and creationism: understanding pseudoscientific beliefs about the past.*" Society 26(3):91-93.

Book review.

Levit, Nancy (1985). "Creationism, evolution and the First Amendment: the limits of constitutionally permissible scientific inquiry." Journal of Law and Education 14(2):211-227.

This article examines the interrelated legal and scientific nature of the creationism controversy. It discusses McLean vs. Arkansas Board of Education and analyzes current tactics used by creationists, concluding that they are constitutionally impermissible. An approach is proposed that balances First Amendment interests with the need for academic freedom.

Lewin, Roger (1981). "A response to creationism evolves." Science 214(4521):635-638.

Discusses the reaction of evolutionists to the creationists' efforts to pass legislation which would mandate the teaching of the biblical account of creation.

Lewin, Roger (1981). "Creationism goes on trial in Arkansas." Science 214(4525):1101-1104.

Describes the case of the American Civil Liberties Union versus the state of Arkansas concerning this state's law requiring equal time for the teaching of creationism and evolution. The ACLU contends this law violates the separation of church and state clause of the First Amendment.

Lewin, Roger (1981). "New creationism bill already drafted." Science 214(4526):1224.

Reviews the major points of the American Civil Liberties Union challenge to the Arkansas bill "Unbiased Presentation of Creation Science and Evolution Science Bill."

Lewin, Roger (1982). "Creationism on the defensive in Arkansas." Science 215(4528):33-34.

Summarizes the American Civil Liberties Union's contention that Arkansas Act 590 (equal time to teaching creationism) is unconstitutional and highlights comments of various witnesses testifying during the trial.

Lewin, Roger (1984). "Antievolution rules are unconstitutional." Science 223(4643):1373-1374.

The Texas Attorney General has said that this state's textbook antievolution rules violate the First Amendment. Responses and issues related to this statement are discussed. The history of these rules is also discussed.

Lewin, Roger (1987). "Creationism case argued before Supreme Court." Science 235(4784):22-23.

Discussing a current creationism case, primary focus is on the future impact on public schools. The case, which involves a Louisiana creationism statute that has been ruled unconstitutional by a lower court, is being argued before the U.S. Supreme Court. The significance of the pending decision is evaluated.

Marcus, Jon (1997). "Lawmakers put theory of evolution under test: fundamentalist Christians are trying to undermine the teaching of Darwinian ideas." Times Educational Supplement (No. 4215):16.

A bid to commission the teaching of evolution in public school science classes in the southwestern state of New Mexico has been blocked due to pressure from fundamentalist Christians. States were banned from requiring public schools

to teach creationism by the U.S. Supreme Court in 1987, and this stemmed from a Louisiana law requiring that creationism be taught when evolutionism was discussed. However, the conflict between Charles Darwin's 1859 theory of evolution and the traditional Biblical teaching is expected to continue.

Marsden, G. M. (1992). "*The creationists: the evolution of scientific creationism* by R.L. Numbers." Nature 360(6405):637-638.

Book review.

Masci, David (1997). "Evolution vs. creationism: should schools be allowed to teach creationism?" CQ Researcher 7(32):747-765.

There is a conflict between those who support evolutionary theory and those who support creationism even within the schools. Creationists believe that the Bible's story of Genesis is fact, as shown by the complexity of life. Supporters of evolution believe that the scientific record provides proof, especially with the advances in genetics, biology and other areas. Almost 50% of Americans believe in creationism over evolution and many legislatures and school boards are considering whether to teach creationism.

Mathisen, J. A. (1994). "*The creationists: the evolution of scientific creationism* by R.L. Numbers." Sociology of Religion 55(1):95-97.

Book review.

Matsumura, Molleen (1998). "How to fight creationist/evolutionist battles: sometimes you have to look for common ground." Free Inquiry 18(2):37-39.

Proponents of the reinclusion of the teaching of creationist science in schools in the U.S. are motivated by anxiety that studying the theory of evolution would lead to perception of life devoid of meaning and purpose. However, survey data show that most citizens are unfamiliar with fundamental scientific principles. So, for the sake of scientific literacy, students should at least be exposed to different views. Americans are capable of a pluralistic mindset which enables them to simultaneously hold a belief in God as well as to credit evidence supporting the evolution theory.

McArthur, Benjamin (1994). "The new creationists." American Heritage 45(7):106-113.

Historian Ronald Numbers, author of *The creationists: the evolution of scientific creationism*, discusses the history of the creation-evolution controversy. His own views on the issue derive not from the theory itself but on the intense feelings of its

advocates.

McCollister, Betty Ed, ed. (1989). Voices for evolution. Berkeley, Calif., National Center for Science Education. ISBN 0-939-87351-6.

The creation/evolution controversy can be best thought of as a contest over control of a portion of educational policy. Scientists do not dispute the right of fundamentalist Christians to believe that Genesis is a history and a science textbook. The difficulty arises when fundamentalists seek to bring their sectarian religious faith into biology classes in public schools as legitimate science. Contained in this collection are the policy statements of 68 organizations on the topic of this controversy. Scientific, religious, and educational organizations from around the world and the United States in particular, representing many faiths and points of view are included.

McCollister, Betty Ed (1990). "Creation 'science' is dishonest." Humanist 50(4):31-33.

McCollister, Betty Ed (1996). "Creation 'science' vs. religious attitudes." USA Today (Magazine) 124(2612):74-77.

The controversy over creation and evolution rests on the need to split science from religion. Fundamental Christians and others lead the fight to take the account of creation in Genesis at face value. Polls indicate that about 45% of the American public believe in taking the Bible literally.

McInerney, Joseph D. (1991). "A biologist in Wonderland: the Texas biology textbook adoption hearings." American Biology Teacher 53(1):4-6.

Editorial.

McInerney, Joseph D. and Randy Moore (1993). "Voting in science: raise your hand if you want humans to have 48 chromosomes." American Biology Teacher 55(3):132-134.

Some school districts have violated the 1987 Supreme Court decision against mandating the teaching of creationism. These districts require science teachers to teach evolution alongside creationism and to have the students vote on which they believe to be correct. This sort of democracy has no place in science; public opinion is not the criterion of scientific truth. Those who argue that both creationism and evolution should be taught have transmuted the political obligation of freedom of speech into an obligation to support ignorance.

Editorial.

McIntosh, Wayne V. (1985). "Litigating scientific creationism, or 'Scopes' II, III, ..." Law & Policy 7(3):[375]-394.

McIntosh, Janet (1998). "Symbolism, cognition, and political orders." Science & Society 62(4):557.

Laibman's 1997 criticisms of "The new creationism: biology under attack" (*The Nation*, June 9, 1997 by Ehrenreich and MacIntosh) raise valid issues and invite further clarifications of certain matters. One of these matters is his contention that the authors did not take into consideration the issue of symbolism, which he believes liberates humans from biology's "instinctual determination." MacIntosh argues that while symbols play a role in human experience, Laibman's approach in ignoring biology is too simplistic.

Response to David Laibman, *Science & Society*, Winter 1997-98.

McIver, Tom (1989). Creationism: intellectual origins, cultural context, and theoretical diversity. Los Angeles, University of California, Los Angeles. Ph.D. dissertation.

McManus, F. E. (1993). "Constructivists and creationists." American Psychologist 48(1):57-58.

A constructivist role in psychology such as that advocated by Hoshmand and Polkinghorne, it is argued, is analogous to that of creationism in biology. The aim of both is to undermine belief that reasoned application of the scientific principles provides a valuable domain of knowledge.

Response to article by L.T. Hoshmand and D.E. Polkinghorne, *American Psychologist*, v. 47, p. 55, 1992.

McMullin, Ernan (1993). "Evolution and special creation." Zygon 28(3):299-336.

The logical relationships between the ideas of evolution and of special creation are explored here in the context of a recent paper by Alvin Plantinga claiming that from the perspective of biblical religion it is more likely than not that God acted in a "special way at certain crucial moments in the long process whereby life developed on earth." The author argues against this thesis, asking first under what circumstances the Bible might be thought relevant to an issue of broadly scientific concern. He goes on to outline some of the arguments supporting the thesis of common ancestry, and argues finally that from the theistic perspective, special creation ought to be regarded as, if anything, less rather than more likely than its evolutionary alternative.

Mesmer, K. (1993). "Evolution vs creationism." American Biology Teacher 55(6):327.

Letter to the editor.

Miller, Kenneth R. (1994). "Life's grand design." Technology Review 97(2):24-33.

Proponents of creationism are using the intelligent design theory to support their belief that a divine creator crafted all of the Earth's biological citizens. They point to the complexity of the Earth's biological species as an indication that a being of a higher level actually designed them. However, opposing scientists point out that many organisms possess design flaws that could not have been overlooked by a master creator.

Mills, Edward W. (1982). "Creationism in the classroom: how to deal with it: a mutant view." Connecticut Journal of Science Education 19(2):25-32.

Suggests instructional strategies for biology teachers confronted with creationism in the classroom and ways of dealing with the literal view of the public regarding the Bible. Supporting documentation (such as Christian ideas supporting scientific spirit and inquiry and definitions of the earth) is included in appendices.

Mims, F. D (1992). "Creationism vs *Scientific American*: a response to Thomas H. Jukes [comment]." Journal of Molecular Evolution 34(1):1-2.

Montagu, Ashley, ed. (1984). Science and creationism. Oxford; New York, Oxford University Press. ISBN 0-195-03253-5 (paperback); 0-195-03252-7 (hardbound).

Edited by Ashley Montagu [with essays by Isaac Asimov and others].

Moore, James (1997). The creationist cosmos of Protestant fundamentalism. In: Fundamentalisms and society: reclaiming the sciences, the family, and education. Marty, Martin E. and R. Scott Appleby, ed. Chicago, University of Chicago Press, p. 42-72. ISBN 0-22650-881-1.

Examines antievolutionist Christian groups in the U.S., in particular, their efforts to include "creation science" in public school curricula in the U.S. and worldwide. The evolution of the creationist view from a theological viewpoint under attack by secularists to a successful, internationally known phenomenon is described. The ideas and actions of specific groups, e.g., the Creation Social Science and Humanities Society, are analyzed. It is shown how evolution threatens not only the arguments of creation science, but also the foundations of the fundamentalist view of life. Difficult epistemological, hermeneutic, and ideological questions, internal

tensions, and external challenges faced by creationists are discussed in the context of their goals and future as a movement. Efforts to address these questions and challenges, in particular, by the reformist "postmillennial" fundamentalist creationists, are assessed. It is argued that the "premillennialist" influence must be removed for the movement to offer a more self-consistent ideology. It is concluded that, until creationism is recognized as the one religious solution to the intractable questions of existence, it will continue as a subculture, albeit a thriving one.

Moore, Randy (1995). "Psychics agree: creationism is a science." American Biology Teacher 57(4):196-197.

Editorial.

Moore, Randy (1996). "A perfectly logical thing to do (teaching creationism in biology and outlawing evolution)." American Biology Teacher 58(8):452-454.

The prevalence of legislation condemning teachers for teaching evolution as the foundation of biology indicates the growing support for creationism over science and enlightened thinking. One Georgia county even asked a publisher to remove a chapter on evolution from a textbook and the publisher complied, considering it a good business move. Among the states having anti-evolution legislation are Tennessee, New Hampshire, Alabama and Louisiana.

Editorial.

Moore, Randy (1997). "The business of creationism." American Biology Teacher 59(4):196.

The forces opposed to the theory of evolution have expanded into business activities. For example, Answers in Genesis has over 30 workers and a vehicle fleet spreading its message via books, videos and seminars. Previously named Creation Science Ministries of Kentucky, Inc., the firm doubled its size annually. It is typical of a growing movement.

Moore, Randy (1997). "The persuasive Mr. Darwin." Bioscience 47(2):107-114.

Argues that Darwin's *On the origin of species* remains a seldom-read book among both biologists and biology students. Explains that this situation presents two problems: (1) it perpetuates misconceptions about Darwin and his ideas, and (2) it prevents an understanding of developing arguments through the selection of appropriate analogies and metaphors.

Moore, Randy (1998). "Banning evolution from the classroom (Creationism in the United States, part 1)." American Biology Teacher 60(7):486.

Evolution is not being challenged by new discoveries, but by religious fundamentalists. The public's acceptance of creationism has allowed it to become increasingly common in America's classrooms. Near the turn of the century a national study reported that 45% of science teachers supported the inclusion of creation in the classroom. A review of the Scopes trial and the history of anti-evolution sentiment in the United States is also presented.

Moore, Randy (1998). "The aftermath of the Scopes trial (Creationism in the United States, part 2)." American Biology Teacher 60(8):568-577.

The trial of John Thomas Scopes pitted creationism against evolution and both sides claimed victory when the Tennessee trial ended in July 1925 with a guilty verdict for John Thomas Scopes. The aftermath of the trial, the appeal of Scopes' verdict and an examination of influential opinions of the time are examined.

Moore, Randy (1998). "The ban on the teaching of evolution reaches the U.S. Supreme Court (Creationism in the United States, part 3)." American Biology Teacher 60(9):650-662.

The Arkansas state legislature passed a bill banning the teaching of human evolution in 1927, a statute which stood for over 40 years. In 1965, Susan Epperson, a high school biology teacher, challenged that law and her petition was supported by the U.S. Supreme Court in 1968.

Moore, Randy (1999). "The aftermath of Epperson v. Arkansas (Creationism in the United States, part 4)." American Biology Teacher 61(1):10-17.

The 1968 decision on Epperson vs. Arkansas permitted the teaching of evolution in Arkansas, treating evolution as a theory rather than a religious belief. This ruling did not address restrictions on the teachings of creationism but there was significant reaction from fundamentalist Christians. The movement known as "creation science" began in 1970 and has been challenging textbook publishers and school districts ever since.

Moore, Randy (1999). "The McLean decision destroys the credibility of 'creation science' (Creationism in the United States, part 5)." American Biology Teacher 61(2):92-101.

Moore, Randy (1999). "Demanding 'balanced treatment' (Creationism in the United States, part 6)." American Biology Teacher 61(3):175-180.

Morgan, Edward William (1983). A biblical and theological critique of scientific creationism. Louisville, Ky., Southern Baptist Theological Seminary.

This study has a two-fold purpose: (1) To introduce the reader to the scientific creationism movement (its general tenets and its science), and (2) to offer a critique of the Biblical and theological aspects of scientific creationism. The scientific creationism movement is founded upon the fundamentalist doctrine of Biblical inerrancy, which suggests that there are no errors of fact—whether scientific, historical, or theological in nature—in the Scriptures. This doctrine, plus the renewed teaching of evolution in the public schools during the early 1960s, led a group of fundamentalist scientists to resume the attack on evolution which was so prevalent during the 1920s. The scientific creationist case against evolution contains essentially two elements. First, creationists take advantage of the multiplicity of definitions which are available today for evolution to make a selective attack on "evolutionism" (a metaphysical philosophy of evolution which has become a religion for some scientists) and neo-Darwinism (a particular theory about how evolution occurs which is being seriously challenged by many scientists today). The only argument which scientific creationists advance against the historical theory of evolution is that it violates the second law of thermodynamics. Second, scientific creationists offer their own model of creation which is based on the pseudoscience of flood geology (a theory that all of the fossiliferous strata in the earth's crust were laid down during Noah's flood) and a slanderous critique of radiometric dating. From the Biblical perspective, scientific creationists claim to interpret the Bible "literally," but an analysis of their hermeneutics reveals that they actually interpret the Bible "inerrantly"—i.e., so that it appears to be without error. As a result, scientific creationists consistently distort the "literal" meaning of Genesis in order to harmonize the two creation accounts and impose their own "scientific" worldview onto the texts. Their scientific distortion of the Bible, however, also leads them to a distorted theological worldview which exchanges the goodness of the present world for a "cursed" universe and the God of love revealed in Christ for a God of judgment and cursing. In the final analysis, scientific creationism, despite certain similarities to the Bible and science, does not truly deserve to be identified with either.

Morishita, Ford (1991). "Teaching about controversial issues: resolving conflict between creationism and evolution through law-related education." American Biology Teacher 53(2):91-93.

Presents a unit on evolution and creation theories in which students explore the legal issues surrounding the teaching of evolution and creation in biology. Students write preliminary essays, study conflict resolution techniques, and conduct a moot trial of the Scopes case of 1925. A course outline is provided.

Morishita, Ford (1992). "Creationism versus evolution continues to spark debate." American Biology Teacher 54(6):329.

Letter to the editor.

Morishita, Ford (1999). "Creationism series lauded." American Biology Teacher 61(2):89-90.

Letter to the editor.

Morris, Henry Madison (1984). A history of modern creationism. San Diego, Calif., Master Book Publishers. ISBN 0-890-51102-0 (paperback); 0-890-51107-1 (hardbound).

Morrison, David (1982). "Astronomy and creationism." Mercury 11(5):144-147.

Discusses the effects on astronomy courses/curriculum if equal time were given to the concept that the universe was created in its present form about ten thousand years ago. Includes the full text on a resolution concerning creationism passed by the Board of Directors of the Astronomical Society of the Pacific.

Moshman, David (1985). "A role for creationism in science education: creationism, evolution, and the public schools." Journal of College Science Teaching 15(2):106-109.

Urges biology teachers to discuss creationism in classrooms, pointing out why it is not science. Indicates that such action would be farsighted recognition of and response to a genuine educational need in society. Topics addressed include scope of science education, the creation movement, censorship, and suggestions for implementing creationism in the classroom.

Murphy, Nancey (1996). "Jesus and life on Mars." Christian Century 113(31):1028-1030.

Discoveries of various forms of life on Mars do not necessarily undermine Christianity. Those who believe in strict interpretations of creationism will have the greatest difficulty in incorporating information regarding the discovery of life on Mars.

Murray, J. (1995). "Creationism and evolution in software." Computer 28(7):104.

Editorial.

Nash, David (1997). "Arguing by design." History Today 47(3):5-9.

Professor Richard Dawkins argues in his book *Climbing Mount Improbable* that the universe evolved from randomness, not from some overriding design by God. He is the latest advocate for the importance of scientific reasoning in discussing matters of existence. Several other intellectuals are discussed.

National Academy of Sciences (U.S.). Committee on Science and Creationism (1984). Science and creationism: a view from the National Academy of Sciences. Washington, D.C., National Academy Press. ISBN 0-309-03440-X.

National Academy of Sciences (U.S.). Working Group on Teaching Evolution (1998). Teaching about evolution and the nature of science. Washington, D.C., National Academy Press. ISBN 0-309-06364-7.

Ch. 1. Why teach evolution? Dialogue: the challenge to teachers. Ch. 2. Major themes in evolution. Dialogue: teaching about the nature of science. Ch. 3. Evolution and the nature of science. Dialogue: teaching evolution through inquiry. Ch. 4. Evolution and the National Science Education Standards. Ch. 5. Frequently asked questions about evolution and the nature of science. Ch. 6. Activities for teaching about evolution and the nature of science. Ch. 7. Selecting instructional materials. App. A. Six significant court decisions regarding evolution and creationism issues. App. B. Excerpt from "Religion in the Public Schools: a Joint Statement of Current Law". App. C. Three statements in support of teaching evolution from science and science education organizations. App. D. References for further reading and other resources. App. E. Reviewers.

Neff, David (1997). "The Pope, the press and evolution." Christianity Today 41(1):18-20.

The media unfairly characterized the October 1996 papal pronouncement as a capitulation to modern theories of evolution. However, the research of biochemist Michael Behe of Lehigh University and others, posits a non-random or "design" in key elements of human evolution.

Editorial.

Nelkin, Dorothy (1982). "From Dayton to Little Rock: creationism evolves." Science, Technology, & Human Values 7(40):47-53.

Traces origins of present-day creationists from their 19th-century fundamentalist beginnings, focusing on past and current objections to the teaching of evolution and efforts to require the teaching of creationism in public schools. Discusses creationist arguments and strategies to accomplish their aims.

Nelson, Byron Christopher (1995). The creationist writings of Byron C. Nelson. New York, Garland Publishing. ISBN 0-815-31806-5.

Contents: "After its kind": the first and last word on evolution. The deluge story in stone: a history of the flood theory of geology. Before Abraham: prehistoric man in biblical light. A catechism on evolution.

Newell, Norman D. (1983). "Creationism and science education." Journal of Geological Education 31(2):74-78.

Suggests that educators and scientists publicize the nature of creationism and expand science education for nonscientists in schools and colleges since the general public lacks sufficient familiarity with science to evaluate misleading creationist claims. Includes comments on the general decline in science education.

Nisbet, Euan G. (1988). "*Science and earth history: the evolution-creation controversy* by Arthur N. Strahler." Nature 334(6183):575.

Book review.

Noll, Mark A. (1997). "*Creationism in twentieth-century America: a ten-volume anthology of documents, 1903-1961.*" Isis 88(1):160-162.

Book review.

Numbers, Ronald L. (1982). "Creationism in 20th-century America." Science 218(4572):538-544.

As the crusade to outlaw the teaching of evolution changed to a battle for equal time for creationism, the ideological defenses of that doctrine also shifted, from biblical to scientific grounds. The development of "scientific creationism" is described, focusing on the intellectual leaders of creationism, particularly those claiming scientific expertise.

Numbers, Ronald L. (1992). The creationists. New York, Knopf; distributed by Random House. ISBN 0-679-40104-0.

Numbers, Ronald L. (1993). The creationists: the evolution of scientific creationism. Berkeley, University of California Press. ISBN 0-520-08393-8.

Numbers, Ronald L., ed. (1995). Creationism in twentieth-century America: a ten-volume anthology of documents, 1903-1961. New York, Garland Publishing.

Contents: v. 1. Antievolutionism before World War I / ed. by Ronald L. Numbers. v. 2. Creation-evolution debates / ed. by Ronald L. Numbers. v. 3. The antievolution works of Arthur I. Brown. v. 4. The antievolution pamphlets of William Bell Riley. v. 5. The creationist writings of Byron C. Nelson. v. 6. The antievolution pamphlets of Harry Rimmer. v. 7. Selected works of George McCready Price. v. 8. The early writings of Harold W. Clark and Frank Lewis

Marsh. v. 9. Early creationist journals / ed. by Ronald L. Numbers. v. 10. Creation and evolution in the early *American Scientific Affiliation* / ed. by Mark A. Kalthoff.

See under the names of the authors of individual titles in this series for fuller information.

Numbers, Ronald L., ed. (1995). Antievolutionism before World War I. New York, Garland Publishing. ISBN 0-815-31802-2.

Contents: The other side of evolution / Alexander Patterson. At the deathbed of Darwinism / Eberhard Dennert. Collapse of evolution / Luther Tracy Townsend. The passing of evolution / George Frederick Wright.

Numbers, Ronald L., ed. (1995). Creation-evolution debates. New York, Garland Publishing. ISBN 0-815-31803-0.

Contents: God and evolution / William Jennings Bryan. Evolution and religion / Henry Fairfield Osborn. Bryan and evolution / Edwin Grant Conklin. Evolution versus creation / John Roach Straton and Charles Francis Potter. Is evolution true? / George McCready Price and Joseph McCabe. The San Francisco debates on evolution / Maynard Shipley, Francis D. Nichol and Alonzo L. Baker. Should evolution be taught in tax-supported schools? / William Bell Riley and Charles Smith. A debate / William Bell Riley and Harry Rimmer. McPherson-Smith debate / Aimee Semple McPherson and Charles Smith. Is man a modified monkey? / Edwin Tenney Brewster and D. J. Whitney.

Numbers, Ronald L., ed. (1995). Early creationist journals. New York, Garland Publishing. ISBN 0-815-31810-3.

Contents: *The creationist* (1937-8). *The bulletin of creation, the deluge and related science* (1943-5). The Forum for the Correlation of Science and the Bible.

O'Connor, Karen and Gregg Ivers (1988). "Creationism, evolution and the courts." PS 21(1):10-17.

Discusses the continuing controversy over evolution and creationism and the role that the courts have played. Examines the effects that result from this controversy, such as the overly cautious selection of textbooks by adoption committees and publishers' reluctance to include "questionable" materials in new books.

O'Neil, Robert M. (1982). "Creationism, curriculum, and the Constitution." Academe 68(2):21-26.

The legal tests that are applied to the issue of state mandates to provide creation

instruction in public schools, and the implications of the mandates, are discussed. This issue is compared with other curriculum mandates and requirements to illustrate the difficulty of the problem.

Oneill, W. G. (1995). "*The creationists: the evolution of scientific creationism* by Ronald L. Numbers." Church History 64(3):526-527.

Book review.

Ortiz de Montellano, Bernard (1995). Multiculturalism, cult archaeology, and pseudoscience. In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 134-151. ISBN 0-877455-13-9.

Osif, Bonnie Anne (1997). "Evolution & religious beliefs: a survey of Pennsylvania high school teachers." American Biology Teacher 59(9):552-556.

A survey of science and English teachers in the Pennsylvania school district showed little difference of opinion on teaching creation science in the public schools. About 34% of the teachers agreed it should be taught in school and 38% said it should not be. The difference between the two groups was significantly different when the survey asked if creation science is central to biology. Fourteen percent of the English teachers and 22% of the science teachers said it was not central to biology.

Pankratius, William J. (1993). The constructivist transformation of a preservice teacher's views on teaching creationism and evolution. .

Students enter teacher education programs with pre-existing beliefs about the teacher's role, what constitutes effective teaching, teacher planning, and knowledge structures. This case study examines the changes in one preservice science teacher's attitude and beliefs towards the teaching of creationism as a result of her personal inquiry. The student was a female, 28-year-old nontraditional student, enrolled in the undergraduate introductory course of a 2-year secondary education course of study at an urban southwestern state university. Data was collected from a questionnaire, early microteaching lessons, concept maps of teaching, reflective papers, student learning journals, interviews, and a field paper of an in-depth personal inquiry into the teaching of creationism. Findings indicated that as a result of her personal investigation, the student changed her beliefs about the teaching of the origin of life in the science classroom. The paper concludes that teacher educators can invite critical inquiry into attitudes and beliefs about teaching and prepare teachers with sound rationales for teaching, if their views about what to teach and how to teach are tested from a constructivist approach.

Paper presented at the Annual Meeting of the National Association for Research in

Science Teaching (Atlanta, Georgia, April 1993).

ED361210; available from ERIC.

Pearson, Craig (1981). "Can teachers cope with creationism?" Learning 9(7):31-33.

The creation/evolution controversy has gained renewed popularity in the last few years. This has resulted in serious implications for science teachers. All classroom teachers need to protect themselves by learning the distinctions between scientific law and theory and to acquire knowledge of the various theories of evolution.

Pennock, Robert T. (1999). Tower of Babel: the evidence against the new creationism. Cambridge, Mass., MIT Press. ISBN 0-262-16180-X.

Peters, Ted (1996)." Theology and science: where are we?" Zygon 31(2):323.

Pierard, Richard V. (1989). "Creationism on trial: evolution and God at Little Rock." Sociological Analysis 50(1):105-106.

Book review.

Pinnock, Clark H. (1989). "Climbing out of a swamp: the evangelical struggle to understand the creation texts." Interpretation 43(2):143-155.

The lesson to be learned here is the principle of allowing the Bible to say what it wants to say and not impose our imperialistic agendas onto it; our exegesis ought to let the text speak and the chips fall where they may.

Pipho, Chris (1981). "Scientific creationism." Compact 14(4):32.

Identifies the groups contributing to the writing and thinking on scientific creationism and the five-step strategy used to influence local boards of education and state legislatures on the subject.

Pipho, Chris (1981). "Scientific creationism: a case study." Education and Urban Society 13(2):219-233.

Describes the current movement to elevate biblical creationism to a scientific theory to be taught alongside evolution in the public schools. Focuses on the strategies and influence of pro-scientific creationism groups and reviews pending legislation that would mandate equal teaching time for creationism.

Plimer, Ian R. (1994). Telling lies for God: reason vs creationism. Milsons Point, N.S.W., Random House Australia. ISBN 0-091-82852-X.

Presents an outline of the creationism vs. evolution debate in Australia.

Pockley, Peter (1997). "Creationism 'Ark' trial opens in Australia." Nature 386(6625):529.

University of Melbourne Head of Earth Sciences Ian Plimer has taken creationist Allen Roberts to court because Plimer believes Roberts is misleading the public over his promotion of a location for Noah's Ark. Roberts claims to have discovered significant evidence that the remains of Noah's Ark are located near Mount Ararat in Turkey. Plimer, who has also visited the site, says there is no indication anything unusual has ever occurred in the area. His lawsuit is one of several disputes between scientists and creationists in Australia.

Pockley, Peter (1997). "'Ark evidence' challenged by Sydney court." Nature 386(6626):638.

Antiquities found in an archaeological site in Turkey believed as Noah's Ark relic was disputed by a University of Melbourne geologist Ian Plimer at a court hearing on the "Noah's Ark/Creationism Trial" in Sydney, Australia. Plimer said that his study on the site was refused by geophysicist Salih Bayraktutan at the same time admitting his ulterior financial interest on the project. David Fasold, a former supporter of the Ark evidence expedition claims that he was led to believe that "creation scientist" John Baumgardner was a geophysicist who could authenticate the relic.

Pockley, Peter (1997). "Geologist loses 'creationism' challenge." Nature 387(6633):540.

University of Melbourne geologist Ian Plimer has seen a judge dismiss the main element of his case against fundamentalist church elder Allen Roberts, who claims that he has discovered scientific evidence for the existence of Noah's Ark. The judge rejected Plimer's argument that Roberts had acted in trade or commerce and was therefore guilty of misleading his financial backers. The case is likely to fuel the bitter dispute between scientists and Christian fundamentalists regarding biological evolution as against the literal truth of the story of creation as told in the Bible.

Pockley, Peter (1997). "Geologist set to challenge 'creationism' verdict." Nature 387(6636):837.

Pockley, Peter (1997). "Plimer appeals creationism trial verdict." Search 28(9):263-264.

Pomeroy, Jonathon Richard (1983). Creationism/evolution: an historical, legal, and educational review. Davis, Calif., University of California, Davis. M.A. thesis.

Popham, Donald F. (1985). "Creationism, evolution and the public schools." Clearing House 59(2):69-71.

Reviews the history of the evolution-creationism controversy, citing court cases pertaining to it.

Pratt, Donald L. (1981). Evolution vs. creationism, 1973-1981.

Various aspects of the current evolution/creationism controversy are reviewed including the impact of attempting to remove evolutionary material from textbooks and including creationist material. A number of viewpoints, opinions, and references from current literature are cited.

ED209086; available from ERIC.

Price, George McCready (1995). Selected works of George McCready Price. New York, Garland Publishing. ISBN 0-815-31808-1.

Contents: Illogical geology: the weakest point in the evolution theory. Q.E.D., or, New light on the doctrine of creation. The phantom of organic evolution. Theories of Satanic origin.

Raup, David M. (1983). "Geology and creationism." Field Museum of Natural History Bulletin 54(3):16-25.

Riley, Noel (1982). "Nun-sense or nonsense: creationism revisited." Clearing House 56(3):118-119.

Argues that a literal, fundamentalist interpretation of the Biblical story of creation is inadequate and inconsistent.

Riley, William Bell (1995). The antievolution pamphlets of William Bell Riley. New York, Garland Publishing. ISBN 0-815-31801-4.

Contents: Are the scriptures scientific? Darwinism, or, Is man a developed monkey? Darwin's philosophy and the Flood. Evolution, a false philosophy. The scientific accuracy of the sacred scriptures. The theory of evolution tested by

mathematics. The theory of evolution, does it tend to atheism? The theory of evolution, does it tend to anarchy? Hitlerism, or, The philosophy of evolution in action.

Rimmer, Harry (1995). The antievolution pamphlets of Harry Rimmer. New York, Garland Publishing. ISBN 0-815-31841-3.

Contents: Embryology and the recapitulation theory. The facts of biology and the theories of evolution. The theories of evolution and the facts of paleontology. The theories of evolution and the facts of human antiquity. Modern science and the first day of creation. Modern science and the second day of creation. Modern science and the third day of creation. Modern science and the fourth day of creation. Modern science and the fifth day of creation. Modern science and the sixth day of creation. Modern science, Noah's Ark, and the deluge. Modern science and the First Fundamental. Monkeyshines : fakes, fables, facts concerning evolution. The harmony of science and the scriptures. Modern science and the youth of today. It's the crisis hour in schools and colleges.

Robbins, F. C. (1995). "Science, creationism and public understanding." American Scientist 83(5):394.

Editorial.

Rosenbaum, S. (1992). "*Evolution and the myth of creationism: a basic guide to the facts in the evolution debate* by T.M. Berra." Journal of Church and State 34(1):135-136.

Book review.

Rosenbloom, Noah H. (1989). "A post-Enlightenment exposition of creationism." Judaism: a Quarterly Journal 38(4):460-478.

Rosinski, F. M. (1998). "*Cult archaeology and creationism: understanding pseudoscientific beliefs about the past* by F.B. Harrold, R.A. Eve." Anthropos 93(4-6):610-612.

Book review.

Rusch, Wilbert H. (1984). The argument: creationism vs. evolutionism. [Norcross, Ga.?], Creation Research Society Books. ISBN 0-940-38404-3.

Ruse, Michael (1986). "The academic as expert witness." Science, Technology, and

Human Values 11(2):68-73.

Based on personal experience as an expert witness called by the American Civil Liberties Union in its 1981 attack on the Arkansas Creationism law, issues relevant to an academician's participation in such a setting are debated. Focus is on moral concerns, the role of legal strategy, and witness responsibilities. Justifications and appropriate scientific methods for fighting the creationists are detailed. In Commentary: The academic as expert witness, Harold P. Green (National Law Center, George Washington University, Washington, D.C.) supports the contention that expert witnesses must support the interpretation of law and legal strategies endorsed by the side for which they testify. If they cannot, nor avoid prostituting their knowledge for personal gain or dubious cases, they should refrain from testifying. Colleagues who do testify—with the proper attitudes and motivations—should not be criticized.

Comment, p. 73-75.

Ruse, Michael, ed. (1996). But is it science?: the philosophical question in the creation/evolution controversy. Amherst, N.Y., Prometheus Books. ISBN 1-573-92087-8.

Ruse, Michael (1998). "Answering the creationists: where they go wrong—and what they're afraid of." Free Inquiry 18(2):28-32.

Advocates of creationism highlight certain issues to discount the theory of evolution. They pinpoint gaps in the fossil evidence supporting this theory. They emphasize the absurdity of producing complex physical adaptations in animals through the simplistic mechanism of natural selection. They assert that a divine designer was responsible for the emergence of all living things. Evolutionists counter these arguments by citing recent fossil discoveries, explaining the cumulative effect of natural selection and querying the alleged designer's motives for mal-mutations among organisms.

Russell, Keith (1998). "Believing in God and science." Insight on the News 14(20):12-13.

Scientists and theologians are starting to recognize a continuity in their belief systems. Leaders in each field are examining aspects of the other and viewing how it effects the universe as a whole.

Sagan, Carl (1996). No such thing as a dumb question. In: The demon-haunted world: science as a candle in the dark. New York, Ballantine Books, p. 325-326. ISBN 0-345-40946-9.

Sagan cites statistics revealing the scientific illiteracy of the the American public,

including the fact that a majority of Americans do not accept evolution, and stresses the necessity of bringing about, through education, a population conversant with at least some knowledge of the scientific method.

Saladin, Kenneth S. (1982). "Opposing creationism: scientists organize." Humanist 42(2):59-61.

Describes the response of the scientific community to creationist activism. A symposium entitled "Science and Belief" was held at the annual meeting of the American Association for the Advancement of Science to debate creationism. A network was organized to facilitate communication and political efficiency among anticreationist citizen lobbies.

Saladin, Kenneth S. (1983). "Sixty years of creationism in Georgia." Society 20(2):17-25.

Examines sociopolitical conditions that allowed pro-creationist and anti-evolutionist movements to thrive in Georgia and other southern states. Describes efforts by leading citizens to influence legislation toward propagation of the creationist philosophy, especially in education. Stresses the need for scientists and educators to oppose creationist policies.

Schmidt, Karen (1996). "Creationists evolve new strategy." Science 273(5274):420-422.

Creationists are trying to convince state legislatures to allow teachers to present scientific evidence that refutes the theory of evolution. This strategy has been successful because it does not seem to have religious overtones.

Scott, Eugenie C. (1987). "Antievolutionism, scientific creationism and physical anthropology." Yearbook of Physical Anthropology 30:21-39.

Scott, Eugenie C. (1993). "*Cult archaeology and creationism* by F.B. Harrold, R.A. Eve." American Antiquity 58(4):789-790.

Book review.

Scott, Eugenie C. (1994). "The struggle for the schools." Natural History 103(7):10.

The movement to give equal time to creationism in science classes has gained much ground since the 1960s. Even as these "equal time" provisions have been outlawed by the Supreme Court in 1987, attempts to push for equal status for

creationism alongside evolution have continued.

Scott, Eugenie C. (1996). "Monkey business." The Sciences 36(1):20-26.

Antievolutionists are seeking ways to prevent evolution from being taught in U.S. schools. They claim that teaching revolution forces students to doubt the existence of God. Antievolutionist groups resort to deception and misrepresentation to further their cause for creationism. Scientists are urged to get involved with the issue, avoid debates with creationists and preserve the middle ground if they are religious.

Scott, Eugenie C. (1996). "The evolution of creationism: reply." The Sciences 36(5):48.

Letter to the editor.

Scott, Eugenie C. (1996). "Creationism, ideology, and science." Annals of the New York Academy of Sciences 775:505.

Scott, Eugenie C. (1996). Dealing with antievolutionism. In: Learning from the fossil record. Scotchmoor, Judy and Frank K. McKinney, ed. Columbus, Ohio, Paleontological Society, p. 15-28.

Available from Carnegie Museum of Natural History, Pittsburgh, Pa.

Scott, Eugenie C. (1997). "Creationists and the Pope's statement." Quarterly Review of Biology 72(4):401-407.

The Pope's statement on evolution to the Pontifical Academy of Sciences in October 1996 should have a greater effect on the general American public than on scientists. Design theorists and conservative Christians believe the Pope's statement supports their contention of evolution as a materialist philosophy. Creationists contend the Pope's statement is incompatible with the Christian position and has come at a time when the evolution theory is in crisis.

Scott, Eugenie C. (1997). "Antievolution and creationism in the United States." Annual Review of Anthropology 26:263-289.

Examines the views and attitudes responsible for conservative Christians' rejection of evolution as scientific fact and addresses the terms and issues critical to understanding the antievolution movement in the U.S. during the last century. Historically, antievolutionists have attempted to ban evolution and present it on an equal footing with creation science. Scholars largely ignored antievolutionism until

efforts to pass equal time for creation and evolution laws stimulated both political and scholarly activism. Lately, there have been efforts to discourage the teaching of evolution by requiring teachers to read disclaimers before teaching it, to teach it as theory, not fact, or to present evidence against evolution. Although rejected by scientists, intelligent design arguments and publications are appearing at the college level (in nonscience courses) as accurate representations of scientific scholarship. It is concluded that anthropologists, as students taught evolution explicitly and as scientists who also study religion, may be the scientists best equipped to deal with the controversy.

Scott, Eugenie C. (1997). "Ussher, young-Earth, and old-Earth creationism." Abstracts With Programs (Geological Society of America) 29(6):352.

Paper presented at the Geological Society of America Annual Meeting, Salt Lake City, Utah, 1997.

Scott, Eugenie C. (1998). "Education forum: evolution and creationism: the problem that won't go away." Molecular Biology of the Cell 9(Supplement):375A.

Paper presented at the 38th Annual Meeting of the American Society for Cell Biology, San Francisco, California, December 12-16, 1998.

Scott, Eugenie C. (1998). "Creationism and evolution: still crazy after all these years." GSA Today 8(1):16-18.

Seaford, H. Wade, Jr. (1990). "Addressing the creationist challenge." Anthropology and Education Quarterly 21(2):160-166.

Describes a method of contrasting "scientific creationism" and evolution, or pseudoscience and science, that was utilized in a freshman seminar at Dickinson College. Discusses how the seminar format fostered analytical thinking, research, and writing skills. Presents responses given by creationist students after the course.

Selkirk, D. R. and Frank J. Burrows (1987). Confronting creationism, defending Darwin. Kensington, N.S.W, New South Wales University Press in association with the Australian Institute of Biology. ISBN 0-868-40178-1.

Shankar, Ganga and Gerald D. Skoog (1993). "Emphasis given evolution and creationism by Texas high school biology teachers." Science Education 77(2):221-233.

For many years, teaching the evolutionary theory in Texas had been much debated. For the 1991-1992 academic year, the State Board of Education in Texas

mandated that evolution be included in biology textbooks. This move had been welcomed and supported by Texas biology teachers but not in a manner commensurate to its importance as a unifying theme for the biological sciences. A majority of teachers were opposed to teaching creationism but do so out of fairness and basis of creationism upon scientific evidence.

Shea, James H. (1983). "Creationism, uniformitarianism, geology and science." Journal of Geological Education 31(2):105-110.

Points out that the most basic of creationist attacks of geology, their claim that uniformitarianism is an unreliable basis for interpreting the past, fail because the uniformitarianism they describe is no longer a part of geology. Indicates that modern uniformitarianism is merely the philosophical principle of simplicity.

Shea, James Herbert (1984). "A list of selected references on creationism." Journal of Geological Education 32(1):43-49.

Provides a list of references on creationism divided into six parts covering: books and collections of articles; articles on geological aspects; articles on physics and biological aspects; articles on philosophical and religious aspects; articles on educational, legal, sociological, historical, and public policy aspects; and major creationist works.

Shea, James Herbert (1996). "Creationism rears its ugly head again." Journal of Geological Education 44(2):126.

Sheets, J. W. (1988). "Professor James Gavan's early detection of creationism: a former student's narrative." American Journal of Physical Anthropology 75(2):270.

Sheler, Jeffery L. and Joannie M. Schrof (1991). "The creation (Question of human origins)." U.S. News & World Report. 111(26):56-62.

Science and religion have long been on opposite sides of the debate on human origins. However, some theologians are trying to incorporate biological data into their theories. An in-depth analysis of scientific and theological research into human origins is presented.

Shermer, Michael Brant, ed. (1983). 25 creationists' arguments & 25 evolutionists' answers: a primer for science educators on the evolution-creationism debate. New York; Altadena, Calif., W.W. Norton; Skeptics Society.

"Originally published in volume 2, no. 2 of *Skeptic magazine*"—T.p. verso.

Shermer, Michael Brant (1991). "Science defended, science defined: the Louisiana creationism case." Science, Technology & Human Values 16(4):517-539.

Describes the origin of the amicus curiae brief submitted in response to the Louisiana Balanced Treatment Act for creation science and evolution science that had been struck down in the Federal Court of Louisiana in 1985 and was being appealed to the Supreme Court. Discusses the historical significance for the collective defining and defending of science by 72 Nobel laureates.

Shore, Steven N. (1992). "Scientific creationism: the social agenda of a pseudoscience." Skeptical Inquirer 17(1):70-74.

Scientific creationists initially lacked the credibility needed to stop the teaching of evolution in U.S. high schools. The 1961 book *The Genesis flood* and the Institute for Creation Research have since made creationism more popular. Arkansas Judge William Overton's 1982 decision concerning science curriculums was a blow against the movement. However, the well-organized ICR has a publishing company, school board candidates and some academic recognition. Creationists, who are again proposing debates, are accused of luring the ambivalent public to fundamentalism.

Shotwell, David A. (1997). "Reason unbalanced." Skeptical Inquirer 21(1):56-57.

Phillip E. Johnson defends Christian theism in his new book *Reason in the balance*. He criticizes the theory of evolution and the naturalistic worldview of most scientists. He argues that modern biology does not sufficiently explain animal and human evolution, particularly the issues of how life began and how simple systems evolved into complex ones. Johnson uses these arguments as evidence of the existence of the supernatural, especially the Christian God.

Siegel, Harvey (1981). "Creationism, evolution, and education: the California fiasco." Phi Delta Kappan 63(2):95-101.

Addresses both the issues raised by the recent trial in Sacramento, California, "Scopes II," which pitted evolution against scientific creationism, and the questions that stem from the trial's failure to address those issues.

Siegel, Harvey (1984). "The response to creationism." Educational Studies: a Journal in the Foundations of Education 15(4):349-364.

Books that contain responses by the scientific community to the challenge posed by creationism are discussed. Scientists defend evolution from creationist criticisms, assess creationism with respect to its own positive scientific contributions, and consider a variety of educational issues that the controversy

raises.

Simkins, R. A. (1994). "*Genesis, creation, and creationism* by L.R. Bailey." Horizons 21(2):380-381.

Book review.

Singleton, Rivers, Jr. (1987). "Creationists versus evolution: a paradigm of science and society interaction." Perspectives in Biology and Medicine 30(3):324-344.

Since the early twentieth century in this country, a basic conflict has existed between proponents of fundamentalist religious views of biological origins (creationists) and modern science that alternates between quiescence and agitation. In the early 1980s, the conflict went through one of its active phases, generating a great deal of heat and vitriol at the local, state, and national levels, and raising classical issues, having a profound effect on school textbooks and on local school science curricula, and raising several new and different issues about science and its method. Explored are the historical development of the controversy, the nature of the creationist position and claims, the effects of these claims on our educational system, the way the controversy has been dealt with in the legal arena, and what the controversy has to say about the nature of science. It is concluded that the controversy has important lessons for both science and society. These lessons involve society's perceptions of the nature and limits of science as well as the role that science plays in modern society.

Skehan, James W. (1983). "Theological basis for a Judeo-Christian position on creationism." Journal of Geological Education 31(4):307-314.

Suggests that Genesis is not a scientific treatment of the earth's origin/age, but is a primitive religious history of Israel and a polemic against much of the theology of the Babylonian creation myth. Indicates that Genesis narrative and conclusions of science belong to different spheres of knowledge. Educational implications are addressed.

Skoog, Gerald (1980). "Legal issues involved in evolution vs. creationism." Educational Leadership 38(2):154-156.

Examines the legal status of demands that "scientific creationism" be taught along with evolution in biology classes.

Skoog, Gerald. (1981). Legal and judicial problems in mandating equal time for creationism.

This paper, presented at the annual meeting of the National Association of Biology

Teachers, is focused on legal and judicial problems in mandating equal time for creationism. Past events provide evidence that legislation, policies, and local resolutions that require science textbooks and curricula to include the Genesis account of creation are unconstitutional. Now, scientific creationism, rather than biblical creationism, is being promoted to neutralize the study of evolutionary theory. However, even the proponents of creationism admit that creation science is not scientific when they say it lies beyond the limits of empirical science, it does not provide a testable scientific theory, and it cannot be disproved. To counter the argument that creationism is religious, the creationists claim that evolutionary theory is religious theory and is an important tenet of secular humanism which they term the religion of the modern age. While the courts have affirmed the right of schools to include evolution in the curriculum without such instruction constituting coercion against religious exercise, question of academic freedom if creationism is or is not taught have not been resolved.

ED213585; available from ERIC.

Skoog, Gerald (1983). "Equal time for creationism? No." Texas Tech Journal of Education 10(2):87-99.

Legal decisions and other arguments support the argument that the exclusion of creationism from school curricula is not the result of censorship or bias. Equal-time legislation for creationism has the potential to entangle the state and religion and to make the task of teachers, textbook authors, and publishers nearly impossible.

Skoog, Gerald D. (1988). "Historical trends in the coverage of evolution in high school biology textbooks." AAAS (American Association for the Advancement of Science) Publication (No. 88-30):167.

Smith, R. (1993). "*The creationists: the evolution of scientific creationism* by R.L. Numbers." Journal of American Studies 27:439.

Book review.

Sober, Elliott (1993). Philosophy of biology. Boulder, Colo., Westview Press. ISBN 0-813-30785-6 (paperback); 0-813-30824-0 (hardbound).

Somers, P. (1998). "Creationism article draws enthusiastic response." American Biology Teacher 60(9):649.

Letter to the editor.

Sorenson, Gail Paulus (1983). "Creationism and evolution in the schools: the constitutional issues." Journal of Thought 18(1):24-34.

A review of the major legal cases concerning the curricular debate over evolution and creationism shows how the courts, in recent cases, have applied fundamental constitutional principles in a way that preserves both intellectual freedom and freedom of belief.

Spuhler, James N. (1985). "Anthropology, evolution, and 'scientific creationism'." Annual Review of Anthropology 14:103-133.

Publications relating to the conflict between creationism and evolutionism in the U.S. are reviewed, focusing on the years 1978-1984. Creationism originated almost entirely within fundamentalist and evangelical churches, which argue for the literal truth of the Bible and have produced an extensive literature on "scientific creationism." The historical and archeological evidence on the origins of Biblical accounts is critically reviewed. The courts in the U.S. have largely ruled that creationist biology textbooks represent an establishment of religion and are therefore unconstitutional. The theories of evolution are summarized, and creationist arguments against evolution—including the second law of thermodynamics, the lack of intermediate steps in the fossil record, and the nonobservation of the origins of new species—are reviewed and found unsatisfactory.

Stackhouse, John G., Jr. (1997). "Fighting the good fight: a plea for healthy disagreements." Christianity Today 41(11):35-37.

Arguments, even theological or interdenominational ones, need to include patient, respectful listening by all parties to all viewpoints. Several errors of debate, civility, and public relations in evangelicals' handling of debates about biblical inerrancy, and creation science, are analyzed.

Stafford, Tim (1997). "The making of a revolution: law professor Phillip Johnson wants to overturn the scientific establishment's 'creation myth'." Christianity Today 41(14):16-22.

Professor Phillip Johnson of the University of California, Berkeley law school renewed his interest in the creation/evolution debate while on a sabbatical in England. He became a born-again Christian and is now totally dedicated to debunking what he calls the "140 year" myth of evolution.

Stempien, Richard and Sarah Coleman (1985). "Processes of persuasion: the case of creation science." Review of Religious Research 27(2):169-177.

The once dormant debate between evolutionism and creationism has erupted again

in a flurry of public debates, court actions, and publications. A content analysis, incorporating categories from communication theory, was conducted of transcribed tapes of debates between proponents of creationism and evolutionary scientists, as well as of other creationist documents and previous research. Results suggest that some of the apparent success of creationists in influencing public opinion is a result of differences in the form, rather than the content, of the arguments of both sides.

Stewart, James (1983). "Positive consequences of the current interest in creationism." School Science and Mathematics 83(4):271-280.

Most articles on creationism focus on whether or not creationism should be included in science courses on an equal footing with evolutionary theory. However, positive influences that the debate can have on biology teaching should also be considered; this could lead to a deeper understanding of evolution and of science itself.

Stiebing, William H., Jr. (1995). Nature and dangers of cult archaeology. In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 1-10. ISBN 0-877455-13-9.

Stipe, Claude E. (1985). "Scientific creationism and evangelical Christianity." American Anthropologist 87(1):148-150.

A critical comment is presented on Robert Charles Williams's analysis of scientific creationism. Williams creates problems by giving scientific creationism and creationism the same meaning, and by conflating creationism and evangelical Christianity. Christianity itself allows a certain latitude of interpretation regarding the creation, including a place for evolutionary interpretations, according to several critics (e.g. Albert, Jerry D., "The dangers of 'special creationism' to Christian faith," *Journal of the American Scientific Affiliation*, 1982, v. 34, p. 178-179). Creationism is also based on an inaccurate reading of the Bible, according to William F. Tanner ("Time and the rock records," *Journal of the American Scientific Affiliation*, 1981, v. 33, p. 100-105).

Stix, Gary (1997). "Postdiluvian science." Scientific American 276(1):96-97.

Creationism is considered the most radical revival of antiscientific thought. Henry M. Morris, founder of the philosophy, advocates the Biblical account as historical fact and supports it with scientific proof.

Stokes, William Lee (1989). "Creationism and the dinosaur boom." Journal of Geological Education 37(1):24-26.

Discusses books and materials published by creationist organizations to promote creation science interpretations on the demise of the dinosaur. Compares many creationist theories with current evolution theories and geological records.

Stone, Richard (1992). "Could creationism be evolving?" Science 255(5042):282.

Editorial.

Strahler, Arthur N. (1982). "Creationists change their strategy." Journal of Geological Education 30(1):24-26.

Explains a new approach by creationists to pass state legislation which supports their philosophy yet sidesteps the issue of separation of church and state by avoiding direct mention of God, the Bible, or divine creation. Warns of the ramifications of such legislation to science education and general education.

Strahler, Arthur N (1983). "Toward a broader perspective in the evolutionism–creationism debate." Journal of Geological Education 31(2):87-94.

Examines the creationism/evolution debate in the context of philosophy, using ontological models in which reality is assigned to one or both natural or transnatural (supernatural) realms. The six models (theistic-teleological dualism; deistic-mechanistic dualism; fundamentalist creationism; atheistic monism; theistic monism; mechanistic monism) deal with cosmology, geologic time, planetary evolution, biopoesis, and organic evolution.

Strike, Kenneth A. (1982). "Creationism: equal respect, not equal time." Principal 61(3):26-29.

Because creationism is not experimental, research-based, or accepted by scientific experts, it is not truly scientific and does not deserve equal time in science classes; yet, like all religious beliefs, it deserves tolerance and respect.

Sturm, Susan P. (1982). "Creationism, censorship, and academic freedom." Science, Technology, & Human Values 7(40):54-56.

Argues that the fight against creationism in public schools is essential to the preservation of First Amendment rights guaranteed by the U.S. Constitution. Discusses how creationists, to avoid religious issues, are presenting the "creation science" (pseudoscience) issue in terms of academic freedom and censorship.

Swanson, Scott (1997). "Debunking Darwin? 'Intelligent-design' movement gathers strength." Christianity Today 41(1):64-66.

The anti-evolution movement gathered 160 academics from 98 colleges for a November 1996 meeting at Biola University in California. They are hopeful that a new respect for the complexity of human biology, plus new theories of the philosophy of science, will allow their ideas into the academic mainstream.

Tatina, Robert (1989). "South Dakota high school biology teachers & the teaching of evolution & creationism." American Biology Teacher 51(5):275-280.

Presented are the results of a survey of biology teachers. Results are compared to surveys of Ohio and Kentucky. Suggestions to improve the coverage of evolution are included. A copy of the survey questionnaire is appended.

Tatina, Robert (1993). "Evolution vs creationism." American Biology Teacher 55(6):327-328.

Letter to the editor.

Tax, Sol (1983). "Reconciling evolution and creation." Society 20(2):36-39.

The issues of evolution and man's role in it and the ambiguity of creationism are discussed, as well as the development of a belief in naturalistic processes. A way of presenting evolution that does not violate scientific knowledge and respects religious and mythological creationist beliefs is briefly outlined.

Taylor, Charles Alan and Celeste Michelle Condit (1988). "Objectivity and elites: a creation science trial." Critical Studies in Mass Communication 5(4):293-312.

Presents a case study of the interpenetration of the paradigm discourses of science, religion, politics, and law and public motive structures as demonstrated by the controversy over scientific creationism. Argues that the discursive populist commitments of journalism indirectly legitimate the populist discourse of creationism.

Taylor, Charles Alan (1992). "Of audience, expertise and authority: the evolving creationism debate." Quarterly Journal of Speech 78(3):277-295.

A rhetorical account for the appeal of creationism is explored, arguing that creationism endures not only in spite of the response of the scientific community, but also, in part, because of it. An analysis of the creationism controversy based on a review of materials published 1975-1990 indicates that the scientific response to creationism misconstrues both the scientific pretensions of creationism and the relative insularity of scientific decision-making on questions of public policy. The response ultimately proves unresponsive to the public appeal of creationism, which

is grounded in an empiricist folk epistemology. Implications are drawn for theoretical understandings of the relationships between technical and public discourses and the related relationship between technical expertise and rhetorical authority.

Taylor, John H., Raymond A. Eve, et al. (1995). "Why creationists don't go to psychic fairs: differential sources of pseudoscientific beliefs." Skeptical Inquirer 19(6):23-28.

Explores the adherence to pseudoscientific beliefs, drawing on 1993/94 questionnaire data from 338 students at the University of Texas at Arlington. Results indicate a strong correlation between the creationism scale and cultural traditionalist respondents with a conservative social agenda, conservative views on vitality, an oppositional stance toward abortion, and literal interpretations of the Bible. Postmodernist respondents' determination of truth is not related to religion or to science.

Thompson, James C. and Kay A. Flowers (1984). "Pseudoscience, creationism and the library." Catholic Library World 56(4):176-179.

Examines growing literature of paranormal phenomena and other areas of investigation that are in conflict with mainstream science, and considers reasons for this growth and similarities which link these areas together within realm of pseudoscience. The dilemma librarians face in dealing with pseudoscientific materials is considered.

Thulborn, T. (1986). "Creationism: on the tracks of men and money." Nature 320(6060):308.

Reports on the creationism controversy in Australia.

Thulborn, T. (1990). "*Dictionary of science and creationism* by R.L. Ecker." Nature 345(6275):487.

Book review.

Thwaites, W. (1988). "Evolution must be taught in the context of sociology and religion." AAAS (American Association for the Advancement of Science) Publication (No. 88-30):167-168.

Thwaites, W. (1991). "*Dictionary of science and creationism* by R.L. Ecker." Journal of Human Evolution 21(6):486-487.

Book review.

Tiffin, Lee (1994). Creationism's upside-down pyramid: how science refutes fundamentalism. Amherst, N.Y., Prometheus Books. ISBN 0-879-75898-8.

Tolleson, W. H. (1998). "Creationism continued." American Scientist 86(3):212.

Letter to the editor.

Toumey, Christopher P. (1991). "Modern creationism and scientific authority." Social Studies of Science 21(4):681-699.

A three-part typology is used to evaluate the influence of the cultural-historical dynamics of the social role of scientific authority on U.S. creationist thought. Modern creationist positions on the merits and credibility of scientific authority are described and then analyzed in terms of the history of three cultural models of science that circulate in U.S. popular culture. It is concluded that creationist attitudes about scientific authority represent an interesting problem, and that the social role of scientific authority is both varied and complex.

Toumey, Christopher P. (1994). "God's own scientists." Natural History 103(7):4-9.

A group holds monthly discussions about creationism. The study group, composed of science professors, a computer engineer, an electronics technician, laboratory scientists and doctors, specifically aims to relate scientific evidence to creationism.

Toumey, Christopher P. (1997). Praying with creationists. In: Practicing anthropology in the South. Wallace, James M. Tim, ed. Athens, Ga., University of Georgia Press, p. 74-80. ISBN 0-820318-60-4 (hardbound); 0-820318-61-2 (paperback).

Traxler, R. W. (1993). "Presenting creationism as science." American Biology Teacher 55(3):134.

Letter to the editor.

Troyer, J. R. (1985?). "B. W. Wells Z. P. Metcalf and the North Carolina Academy of Science U.S.A. in the evolution controversy 1922-1927." Journal of the Elisha Mitchell Scientific Society 102(2):43-53.

Turner, Allen C. and Edwin W. House (1982). Evolution: trials and tribulations. [Pocatello], Idaho Museum of Natural History.

Contents: Evolution / Allen C. Turner. Scientific creationism / Edwin W. House.

Turner, Monika (1982). "Scientific creationism in America 1963-1982." Nexus 2(2):66-88.

Van, Howard J. (1995). "Special creationism in designer clothing: a response to the creation hypothesis." Perspectives on Science and Christian Faith 47(2):123.

Van Koevering, Thomas E. and Richard B. Stiehl (1989). "Evolution, creation & Wisconsin biology teachers." American Biology Teacher 51(4):200-202.

Reports on a study which was conducted to provide a sample of biology teachers an opportunity to describe their experiences and opinions regarding the controversial issue of evolution and opinions regarding the controversial issue of evolution and creation as it relates to teaching about the origins of life. Provides the objectives, sample selection, an analysis and a conclusion.

Van Till, Howard J. (1998). "The creation: intelligently designed or optimally equipped?" Theology Today 55(3):344-365.

The view of the universe as having been created by God does not preclude the acceptance of cosmological evolution. The controversy between these positions often structures the debate as one's correctness logically defeating the other, yet this contains a logical flaw. This flaw can be avoided by regarding creation as possessing a robust formational economy, or an "optimally equipped" creation.

Wagger, David, Roger C. Prince, et al. (1988). "Creationism and common sense." Nature 332(6165):580.

Letter to the editor.

Walker, Ken (1998). "Young-earth theory gains advocates." Christianity Today 42(5):24.

A number of scientists hold to the biblical account of creation and are attempting to marshal scientific evidence to corroborate it. Some pieces of such evidence that creationist scientists cite are the rate of decay in the earth's magnetic field, the rate of salt accumulation in the oceans, and the rapid recovery of Mount Saint Helens following its eruption 18 years ago. Other scientists dispute the creationists' interpretation of these data. Other conservative Christians believe that arguing for a young earth is an issue subsidiary to establishing a more religiously oriented society.

Walsh, Robert E., Chris L. Brooks and Richard S. Crowell, eds. (1986). Proceedings of the First International Conference on Creationism: held August 4-9, 1986, Pittsburgh, Pennsylvania. Pittsburgh, Pa., Creation Science Fellowship. ISBN 0-961-70681-3 (v. 1); 0-961-70682-1 (v. 2).

Contents: v. 1. Basic and educational sessions. v. 2. Technical symposium sessions and additional reports / edited by Robert E. Walsh, Christopher L. Brooks, Richard S. Crowell.

Weeks, N. (1994). "*The creationists: the evolution of scientific creationism* by Ronald L. Numbers." Journal of Religious History 18(1):110-112.

Book review.

Weitchek, Andrew (1982). "Creationism litigation in Louisiana." Abstracts With Programs (Geological Society of America) 14(7):644-645.

Paper presented at the Geological Society of America, 95th Annual Meeting, 1982, New Orleans, La.

Welk, T. A. (1998). "Creationism continued." American Scientist 86(3):212.

Letter to the editor.

Wells, Neil Andrew (1989). "Using the illogic of creationism to teach the logic of science." Journal of Geological Education 37(5):317-320.

Presented is a strategy which uses creationism and other pseudosciences as examples of nonscientific approaches to pseudosciences as examples of nonscientific approaches to critical thinking to teach students the nature of science and the scientific method. Examples of the illogic of nonscientific approaches are given along with an explanation of how they can be used in teaching critical thinking to introductory science students.

Wexler, Jay D. (1997). "Of pandas, people, and the First Amendment: the constitutionality of teaching intelligent design in the public schools." Stanford Law Review. 49(2):439-470.

The teaching of intelligent design in public school biology classes violates the First Amendment, but evolution and religion should be reconciled by society outside the classroom. Publication of *Of pandas and people: the central question of biological origins* has renewed the debate by suggesting that intelligent design theory is scientific. Intelligent design violates the Establishment Clause because it assumes a creator that designed the evolution of all life. Supreme Court rulings preclude

the teaching of all religiously based doctrines in public schools.

Wild, Gaynor (1998). "Gish and creationism at Murray State: a child's garden of verses." Skeptical Inquirer 22(3):6-8.

Biochemist Duane T. Gish argued for creationism at a debate held at Murray State University in Murray, Kentucky. An author of a number of essays that proclaim the "scientific" basis of creationism, Gish is regarded by science practitioners as someone who could not be trusted to be scientific. Expounding on the second law of thermodynamics, entropy, evolution and creationism, Gish deftly evaded the more-scientific arguments of his opponent, William Schell, Assistant Professor of History at Murray. After an audience survey, Gish was announced "winner" at the end of the debate.

Williams, Robert Charles (1983). "Scientific creationism: an exegesis for a religious doctrine." American Anthropologist 85(1):92-102.

An exegesis of the seminal works of Henry M. Morris, director of the Institute for Creation Research at Christian Heritage College, El Cajon, California, clearly reveals that scientific creationism is a religious doctrine. It is a necessary dogma of the conservative evangelical's particular form of Christianity, is premised on a literal interpretation of the Bible, and has as its purpose the defense of Jesus Christ as Lord and Savior.

Williams, Stephen (1995). Fantastic archaeology: what should we do about it? In: Cult archaeology & creationism. Harrold, Francis B. and Raymond A. Eve, ed. Iowa City, University of Iowa Press, p. 124-133. ISBN 0-877455-13-9.

Windsor, Donald A. (1999). "Creationism is a dumbing-down of God." Perspectives in Biology and Medicine 42(2):288-290.

Evolution and creationism should be debated at the nonscientific level, using a comparison of objects and organisms. Human beings have modified, refined or corrected the objects they have created, such as industrial processes and inventions. Extending the analogy, it is therefore blasphemous to state that God cannot do the same with his own creations.

Editorial.

Wise, Donald U. (1998). "Creationism's geologic time scale (The concept of creationism)." American Scientist 86(2):160-173.

The concept of creationism is based on Biblical accounts on how earth was created but it opposes modern science concepts on creation. Teaching the concept of

creationism in school as a scientific fact has not been allowed in science classes because of its inadequate solid bases. However, proponents of creationism encourage public support by raising religious issues. The conflicting views of creationists and modern scientists have stimulated a series of debates regarding the issue.

Wise, Donald U. (1998). "Creationism continued: reply." American Scientist 86(3):213-214.

Letter to the editor.

Wise, Donald U. (1998). "Creationism's geological time scale." American Scientist 86(3):215.

Contains corrections to the original article in *American Scientist,* v. 86, no. 2, March-April 1998.

Witham, Larry (1998). "Alternatives to evolution?" Insight on the News 14(34):42.

People who believe in creationism have failed for the most part to make public schools teach it, but scientists of faith continue to work on a "creation model" for Earth and humankind. Part of that job, according to participants at a recent national conference, is to weed out questionable theories on both sides of the issue, from what they call "bogus science" to claims made by enthusiastic but untrained creationists.

Wodak, Jo and David Oldroyd (1996). "'Vedic creationism': a further twist to the evolution debate." Social Studies of Science 26(1):192-213.

A review essay on a book by Michael A. Cremo and Richard L. Thompson, *Forbidden archeology: the hidden history of the human race* (San Diego, Calif.: Bhativedanta Institute, 1993). Cremo and Thompson argue that Homo sapiens could have existed before Tertiary Man, and offer a branch of creationism based on ancient Vedic beliefs. It is suggested that the arguments in *Forbidden archeology* draw on similar arguments of the creation science movement, particularly palaeoanthropology, although the authors claim that their approach is similar to that taken by practitioners of the sociology of scientific knowledge. Although palaeoanthropological claims have been largely discredited by current theorists, the authors invite reconsideration of these theories. In this context, Cremo and Thompson target orthodox evolutionary palaeoanthropology as well as Darwinian evolution.

Wood, Chris (1995). "Big bang versus a big being: the thorny debate over teaching creationism in school resurfaces in British Columbia." Maclean's 108(24):14-16.

Abbotsford, B.C.'s school board's policy of mandatory instruction in creation science is being challenged by concerned parents, teachers, and school board member Scott Goodman. Opponents of creationism claim it is a fundamentalist religious theory and thus has no place in a secular classroom.

Woodrum, Eric and Thomas Hoban (1992). "Support for prayer in school and creationism." Sociological Analysis 53(3):309-321.

Alternative hypotheses on why school prayer and creationism continue to receive widespread public support in the U.S. are tested using data obtained via telephone interviews in North Carolina in 1989 (N = 332 respondents). Logistic regression analysis indicates that low education, religious salience, and political conservatism increase support for both issues; yet multivariate findings indicate the social support bases of school prayer and creationism are substantially distinct. Biblical literalism is critical to creationist support, whereas biological ignorance is not. School prayer support derives from more heterogeneous sources than does creationism. Findings are interpreted in terms of moral communities and competing worldviews held by religious traditionalists vs modern secularists. Despite considerable public communities and competing worldviews held by religious traditionalists vs modern secularists. Despite considerable public support, it is concluded that political prospects for these proposals are limited.

Woodward, Arthur, David L. Elliot, et al. (1984). Evolution, creationism, and textbooks: a study of publishers' perceptions of their markets.

This study:(1) comprehensively reviews previous research on the treatment of evolution in high school biology textbooks; (2) describes the treatment of evolutionary theory, including mention of creationist explanations of the development of life forms, in the most recent editions of 15 high school biology textbooks from the major publishers; and (3) discusses what the treatment of evolutionary theory in these textbooks indicates about publisher responses to pressure from groups interested in modifying the treatment of evolution (and including non-scientific explanations in science textbooks) and the consequences for educational consumers of such textbook publishing policy. Previous research shows that from 1920 to 1960, the majority of biology textbooks (and those most popular ones) inadequately covered evolution and Darwin or excluded this material. The analysis of the 15 books revealed four patterns of publisher response to the treatment of evolution (from 6 books presenting extensive and uncompromising treatments of evolution to 2 books avoiding the subject). Thus, educators do have a choice when selecting textbooks with respect to evolution. However, it is pointed out that in this situation textbooks have become a statement of value, not of scholarship and pedagogy.

Prepared by the Committee on Science and Creationism. National Academy Press, 2101 Constitution Ave., NW, Washington, DC 20418 (single copy $4.00; 2-9, $3.00; 10 or more, $1.75).

ED245940; available from ERIC.

Woodward, Tom (1997). "Meeting Darwin's wager: how biochemist Michael Behe uses a mousetrap to challenge evolutionary theory." Christianity Today. 41(5):14-22.

Behe's book argues that evolutionary theory fails at the molecular level because the cell is a biological system of irreducible complexity that meets Darwin's criteria for an organ that could not form through evolution. He believes that the cell is the product of intelligent design.

Young, Willard Alexander (1985). Fallacies of creationism. Calgary, Alta., Detselig Enterprises. ISBN 0-920490-53-0.

Zetterberg, J. Peter, ed. (1983). Evolution versus creationism: the public education controversy. Phoenix, Ariz., Oryx Press. ISBN 0-897-74061-0.

The University of Minnesota organized a conference ("Evolution and Public Education," December 5, 1981) to help clarify issues in the creation/evolution controversy and to examine arguments of the proponents of scientific creationism. This six-part book, a revised version of a resource manual compiled for the conference: (1) discusses the theory of evolution and its place in science education; (2) examines the creationist movement; (3) states the position of scientific creationists; (4) responds to creationists' arguments against evolution; (5) explores legal issues in the controversy; and (6) provides some perspectives on attempts to treat the Genesis creation account as science. The fifth section, on legal issues, includes Judge Overton's decision striking down the Arkansas Creationism Act, as well as pieces of legislation which reveal the changing tactics of creationists, who first sought to ban the teaching of evolution in the 1920s, then sought equal time for biblical creationism in the late 1960s and early 1970s, and now seek a two-model approach to earth science/biology teaching (evolution as one model, scientific creationism as the other). A comprehensive bibliography lists most of the important works that directly address the controversy, as well as many publications on the philosophy of science and faith issues.

Zimmerman, Michael (1986). "The evolution-creation controversy: opinions from students at a 'liberal' liberal arts college." Ohio Journal of Science 86(4):134-139.

A questionnaire dealing with selected issues in the evolution-creation debate was distributed to 362 students at Oberlin College, Oberlin, Ohio. Because the survey was originally developed and distributed at Ohio State University, comparisons could be made between university students and individuals enrolled in a small, highly selective liberal arts college. Most Oberlin students claim that they believe in evolutionary theory (89%) and recognize both that it has a solid scientific foundation (88%) and that most scientists accept its scientific validity (92%). Over

one-half of the students surveyed (56%) thought, however, that creationism should be introduced into the public schools. At the same time, over one-half of those surveyed (60%) also felt that such an introduction into the public schools would constitute the teaching of religious principles. A very small fraction of the respondents had a sophisticated view of evolution (7%), but many (68%) were able to identify various components of natural selection. Evolutionary sophistication and rejection of creationism increased as a function of the amount of biology instruction received. The Oberlin students differed from the Ohio State students in that significantly more of the former: 1) accepted evolutionary theory; 2) recognized that teaching creationism in the public schools means introducing religion there; 3) were taught evolutionary theory in high school; and 4) accept the fact that scientists consider evolutionary theory to be valid. The results suggest that large numbers of people are ignorant of the specifics of both evolutionary theory and "creation science" and, therefore, are susceptible to the creationist argument that keeping creationism out of the classroom is an infringement of academic freedom and freedom of speech.

Zimmerman, Michael (1987). "The evolution-creation controversy: opinions of Ohio high school biology teachers." Ohio Journal of Science 87(4):115-125.

Presents the results of a survey of high school biology teachers in Ohio. Indicates that Ohio biology teachers are far more likely to support the teaching of evolution, and less likely to support the teaching of creationism, than is the general public. Includes the questionnaire in the appendix.

Zimmerman, Michael (1989). "The science budget must be insulated from the creationist threat." Chronicle of Higher Education 35(22):B2.

Zingarelli, Mark (1994). "God's country." Mother Jones 19(2):50-58.

Stanwood residents complained when a creationist was invited to address a junior high school biology class. Previously non-political residents learned of an orchestrated campaign by the Camano Chapel church to control school curricula.

Zuckerkandl, Emile (1988). "Creationism and evolution: discussion." Nature 334(6181):376.

Zuidema, Henry P. (1981). "Less evolution, more creationism in textbooks." Educational Leadership 39(3):217-218.

Science textbook publishers, engaged in their own struggle for survival, are catering to creationists.

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